

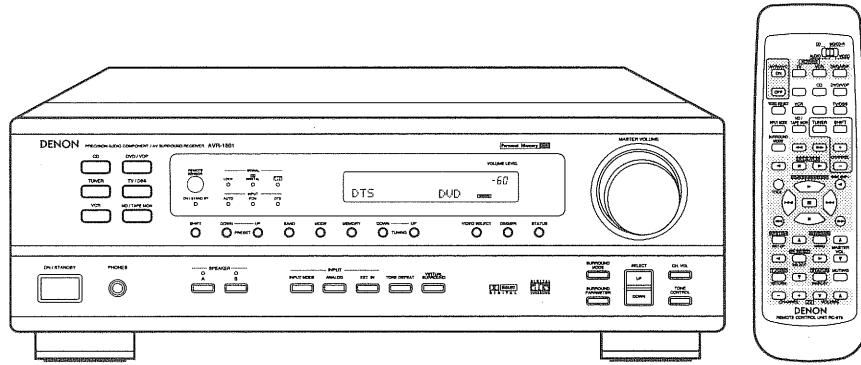
# DENON

Hi-Fi Component

## SERVICE MANUAL

### MODEL AVR-1601/681

#### AV SURROUND RECEIVER



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• Some illustrations using in this service manual are slightly different from the actual set.

**NIPPON COLUMBIA CO., LTD.**

## SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

### LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

## SPECIFICATIONS

### ■ Audio Section

#### Power Amplifier

Rated output:	Front: 60W+60W 90W+90W 100W+100W	(8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) (6Ω/ohms, EIAJ ) (Asia Model)
	Center: 60W 90W 100W	(8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) (6Ω/ohms, EIAJ ) (Asia Model)
	Surround: 60W+60W 90W+90W 100W+100W	(8Ω/ohms, 20Hz~20kHz with 0.08% T.H.D ) (6Ω/ohms, 1kHz with 0.7% T.H.D ) (U.S.A., Canada & Europe Models) (6Ω/ohms, EIAJ ) (Asia Model)
Output terminals:	Front: A or B A+B	6 to 16Ω/ohms 12 to 16Ω/ohms
	Center/Surround:	6 to 16Ω/ohms

#### Analog

LINE input - PRE OUT	
Input sensitivity/input impedance:	200mV/47kΩ/kohms
Frequency response:	10Hz~100kHz: +1, -3dB (TONE DEFEAT ON)
S/N ratio:	98dB (IHF-A weighted)(TONE DEFEAT ON)

### ■ Video Section

#### Standard video jacks

Input/output level and impedance:	1Vp-p, 75Ω/ohms
Frequency response:	5Hz~10MHz: +1, -3dB

#### S-video jacks (U.S.A., Canada & Asia Models)

Input/output level and impedance:	Y(brightness)signal — 1Vp-p, 75Ω/ohms
	C(color)signal — 0.286Vp-p, 75Ω/ohms
Frequency response:	5Hz~10MHz: +1, -3dB

### ■ Tuner section

Receiving range:	[FM] (note: μV at 75Ω/ohms, 0dBf = $1 \times 10^{-15}$ W)	[AM]
U.S.A., Canada &		
Asia (for Multiple voltage) Models:	87.50MHz~107.90MHz	520kHz~1710kHz
Europe & Asia (for China) Models:	87.50MHz~108.00MHz	522kHz~1611kHz
Usable sensitivity:	1.0μV (11.2dBf)	18μV
50 dB quieting sensitivity:	MONO 1.6μV (15.3dBf) STEREO 23μV (38.5dBf)	
S/N ratio:	MONO 80dB (IHF-A weighted) STEREO 75dB (IHF-A weighted)	
Total harmonic distortion:	MONO 0.15% (1kHz) STEREO 0.3% (1kHz)	

### ■ General

Power supply:	
U.S.A., Canada Models	AC120V,60Hz
Europe Model	AC230V,50Hz
Asia(for Multiple voltage)Model	AC115/230V,50/60Hz
Asia(for China)Model	AC220V,50Hz
Power consumption:	200W
Maximum external dimensions:	434 (W) x 147 (H) x 417 (D) mm (17-3/32" x 5-25/32" x 16-7/16")
Mass:	9.5kg (20 lbs 15.1 oz)

### ■ Remote control unit (RC-875)

Batteries:	R6P/AA Type (two batteries)
External dimensions:	54 (W) x 172 (H) x 27.2 (D) mm (2-1/8" x 6-49/64" x 1-5/64")
Mass:	100g (Approx. 6 oz) (including batteries)

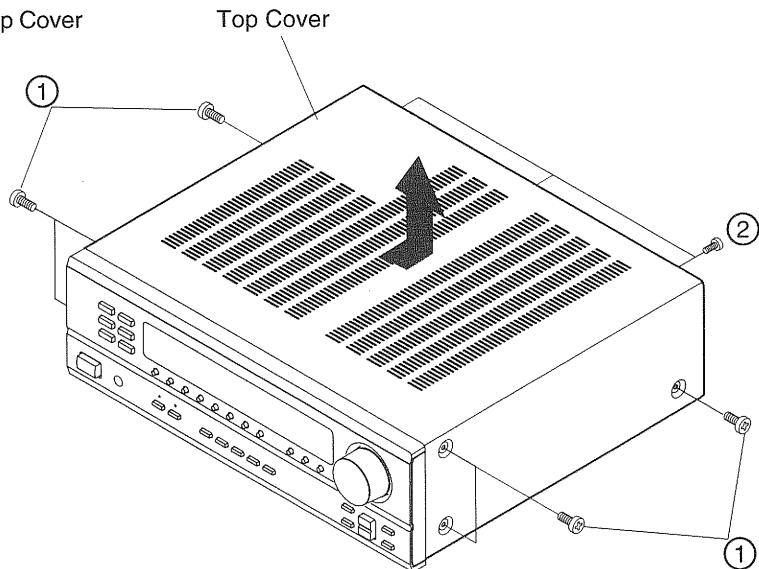
\* For purposes of improvement, specifications and design are subject to change without notice.

## DISASSEMBLY

(Follow the procedure below in reverse order when reassembling)

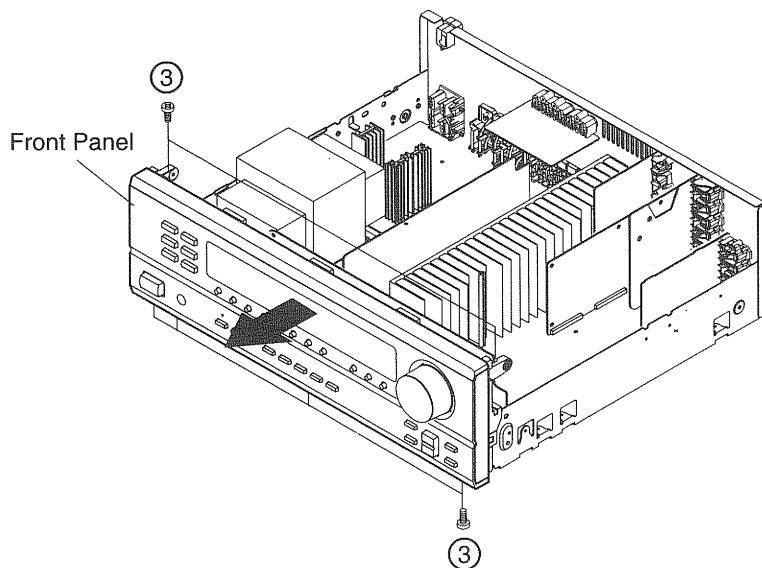
### Top Cover

Remove 6 screws ① and 3 screws ②, detach the Top Cover in the arrow direction.



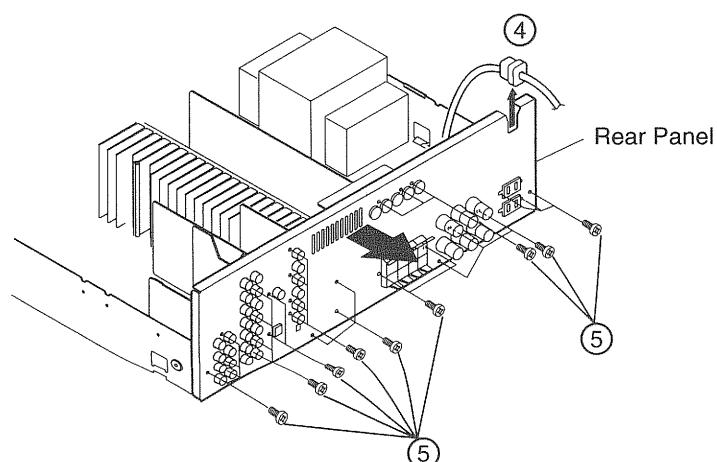
### Front Panel

1. Remove 6 screws ③.
2. Detach the Front Panel in the arrow direction.

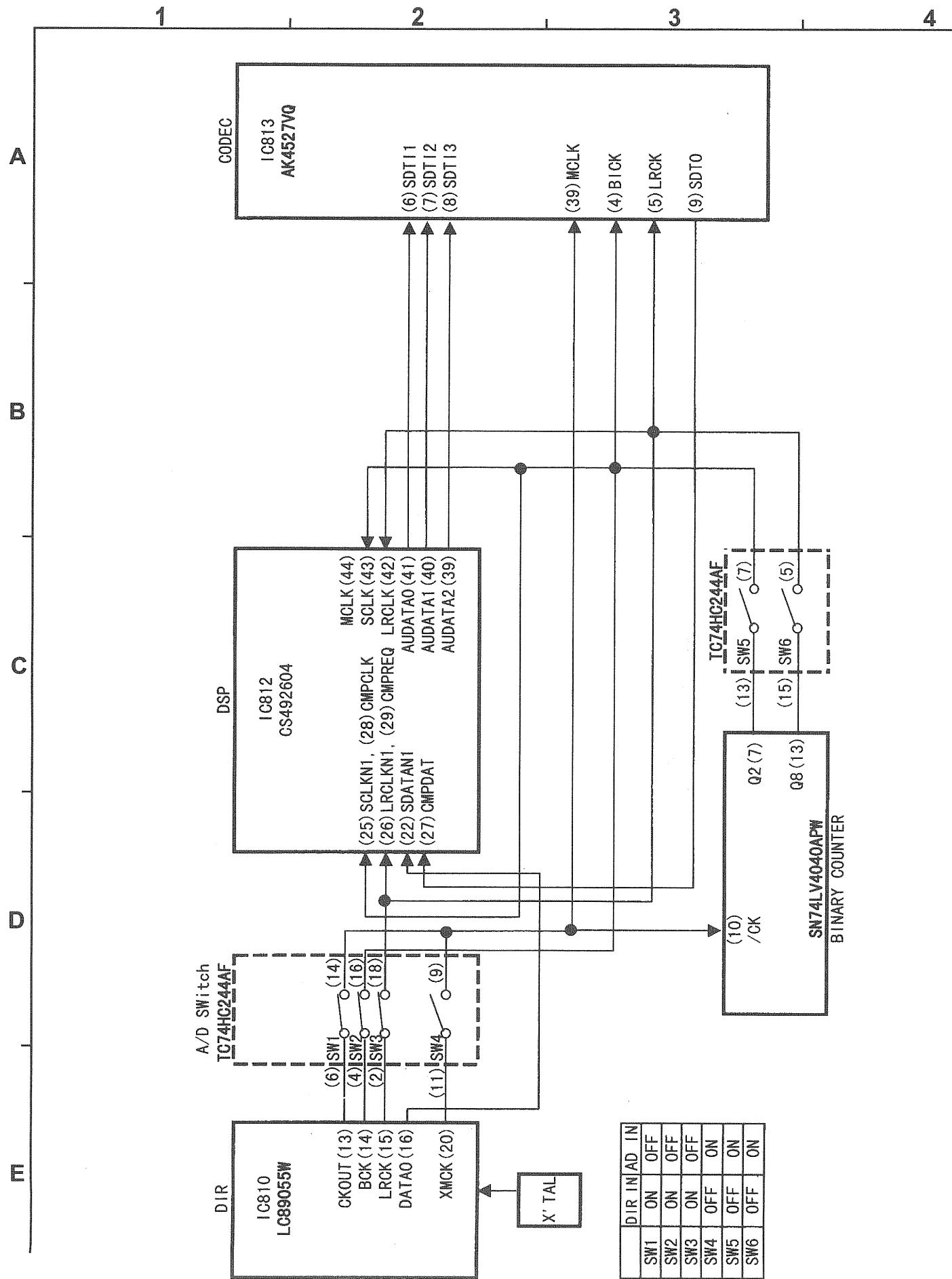


### Rear Panel

1. Remove cord bushing ④ from the Rear Panel.
2. Remove 28 screw ⑤.
3. Detach the Rear Panel in the arrow direction.

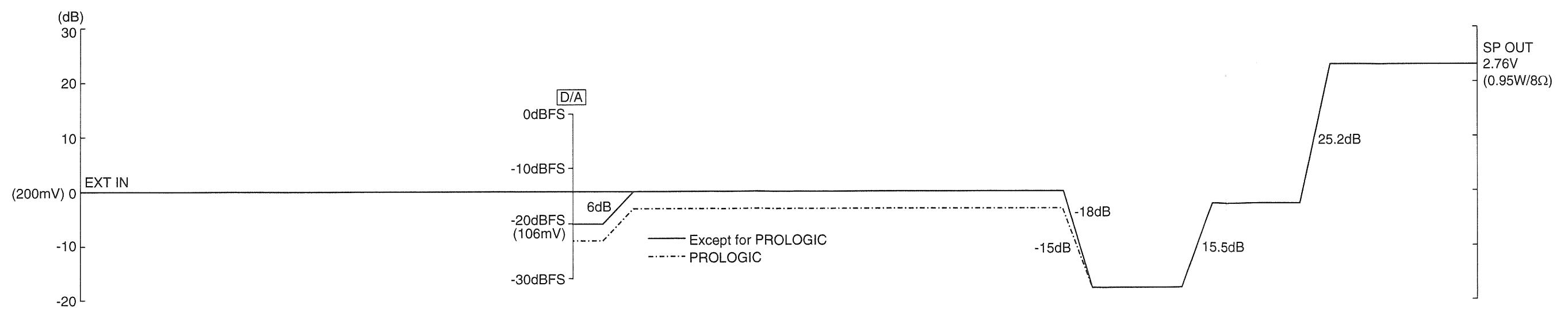
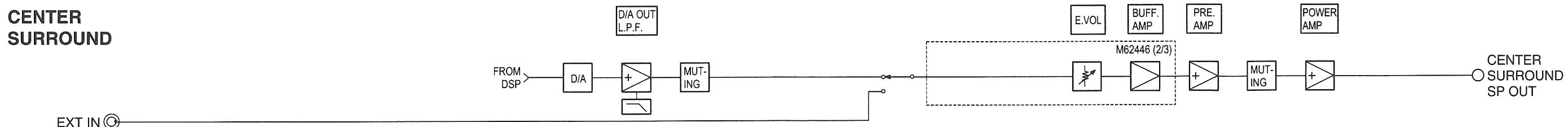
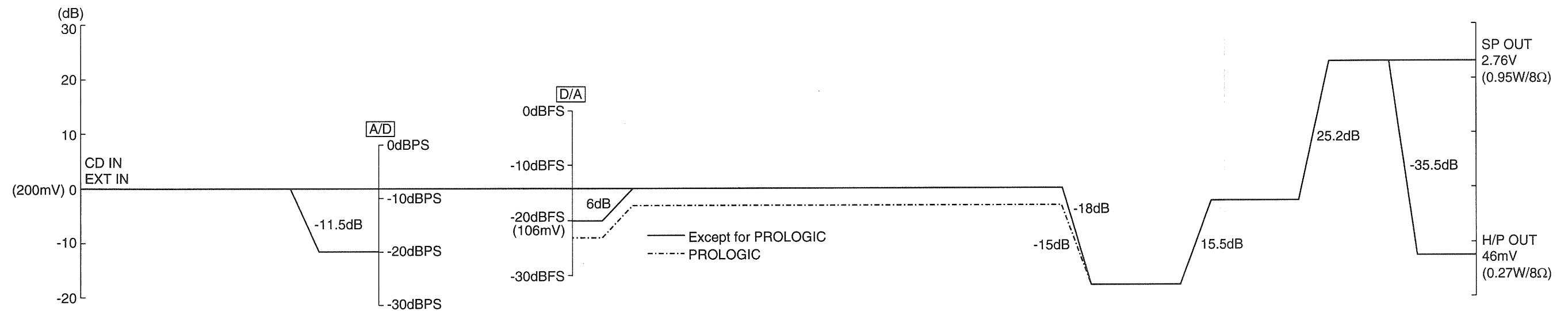
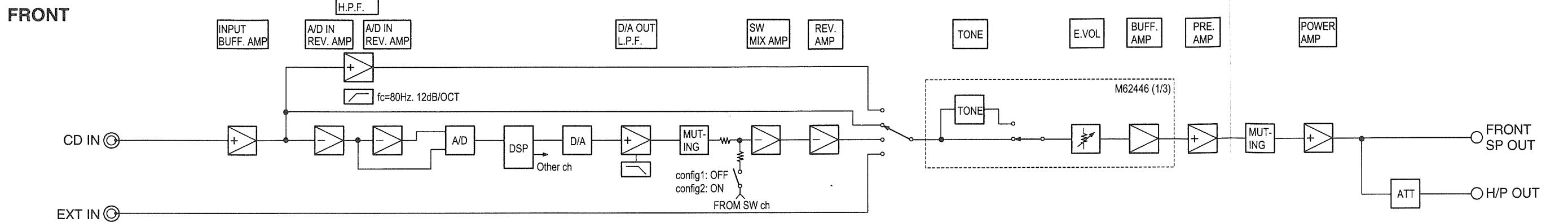


## CLOCK FLOW



## LEVEL DIAGRAM

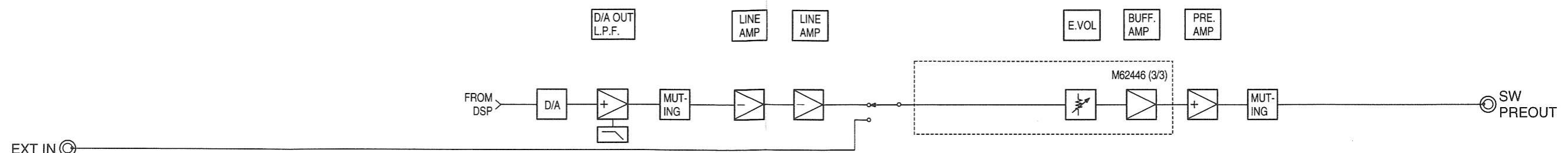
1 2 3 4 5 6 7 8



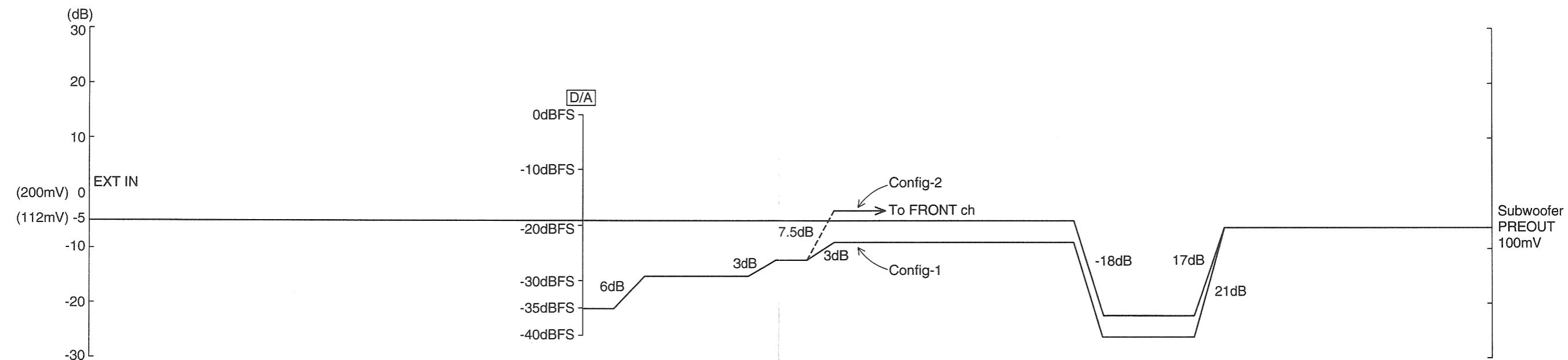
1 2 3 4 5 6 7 8

## SUBWOOFER

A



B



C

D

E

## BLOCK DIAGRAM

1

2

3

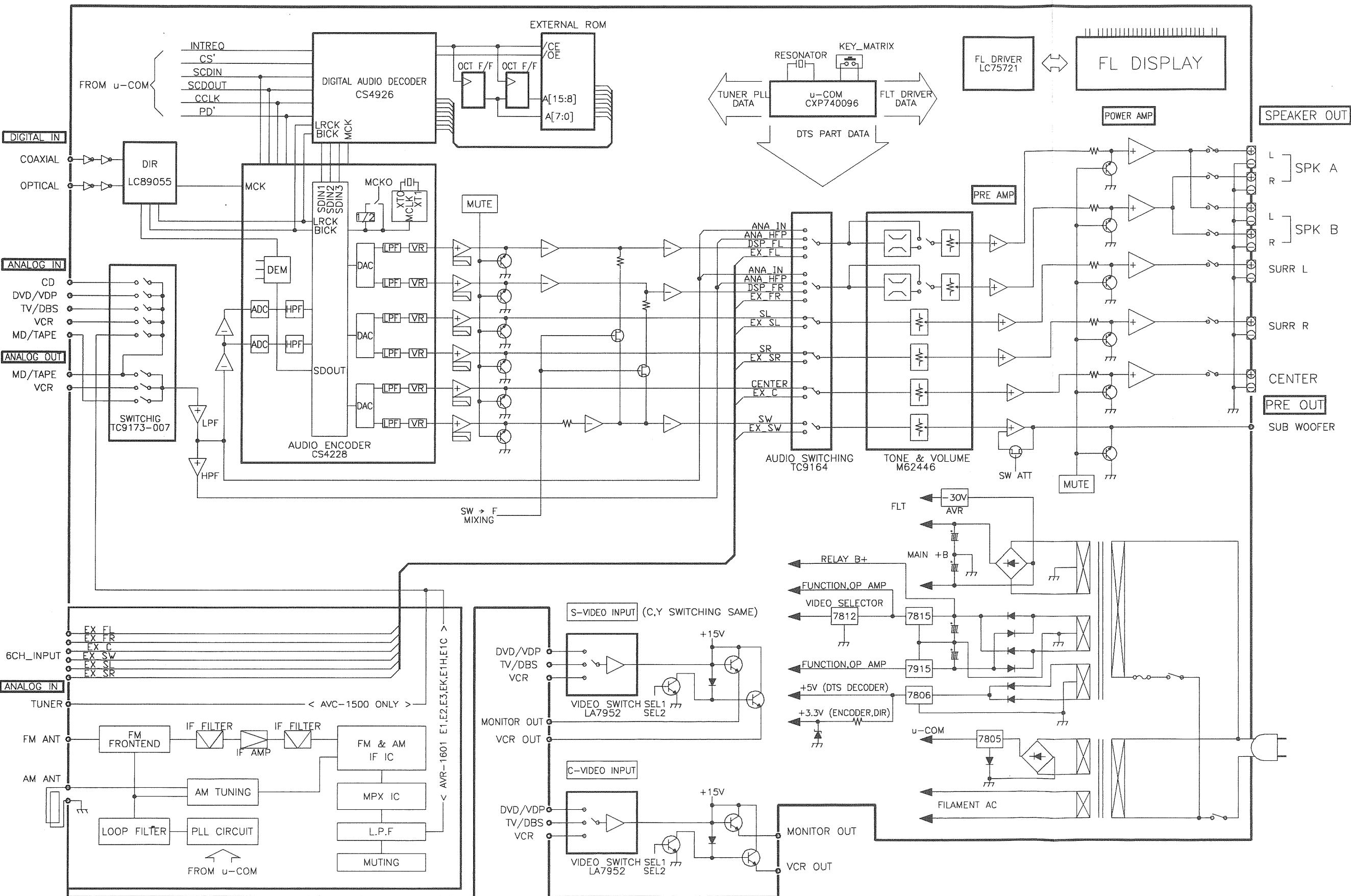
4

5

6

7

8

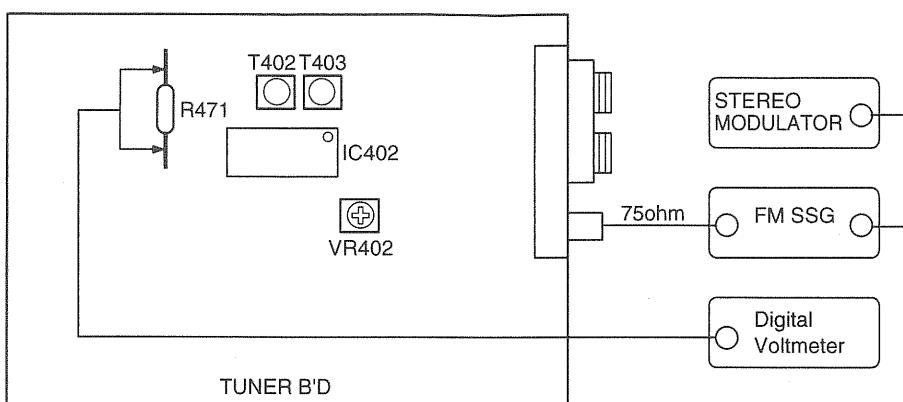


## ADJUSTMENT

## Tuner Section

## CONNECTION DIAGRAM OF MEASURING INSTRUMENTS

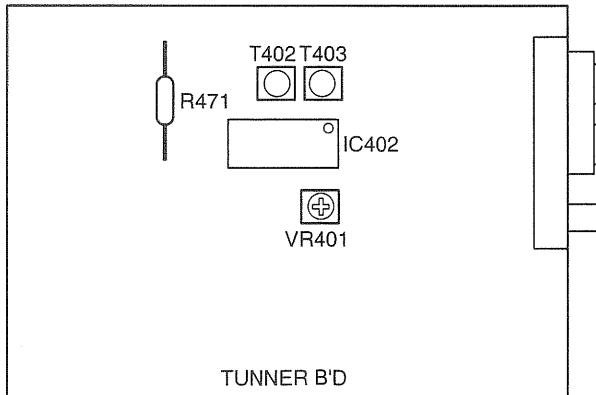
## ● FM



## FM ALIGNMENT

Step	Alignment Item	Tuning Frequency Setting	Input				Output		Adjustment		
			Type	Frequency	Input Level	Modulation	Coupling	Type	Connect to	Points	Adjust to
1	Center Adjustment	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dB $\mu$	Mono 1kHz 100%	Antenna Terminal	Digital Voltmeter	R471	T402	$\pm 50mV$
2	Distortion	98.1MHz (98.0MHz)	FM SSG	98.1MHz	60dB $\mu$	Mono 1kHz 100%	Antenna Terminal	Distortion Meter	Output Terminal (L)	T403	Minimum Distortion
3	Repeat Steps 1 and 2										
4	Signal Level	98.1MHz (98.0MHz)	FM SSG	98.1MHz	20dB $\mu$	OFF	Antenna Terminal	Light "TUNED" on FL Display	VR402	$20^{+14}_{-10}$ dB	

## ● AM



## AM ALIGNMENT

Step	Alignment Item	Frequency	Input	Output		Adjustment		Remarks
				Type	Connect to	Points	Adjust to	
1	Signal Level	999 (1000) kHz	AM SSG	—	—	VR401	Light "TUNED" on FL Display	SSG OUTPUT 74dB $\mu$ (EMF)

## Audio Section

## Idling Current

Required measurement equipment : DC Voltmeter

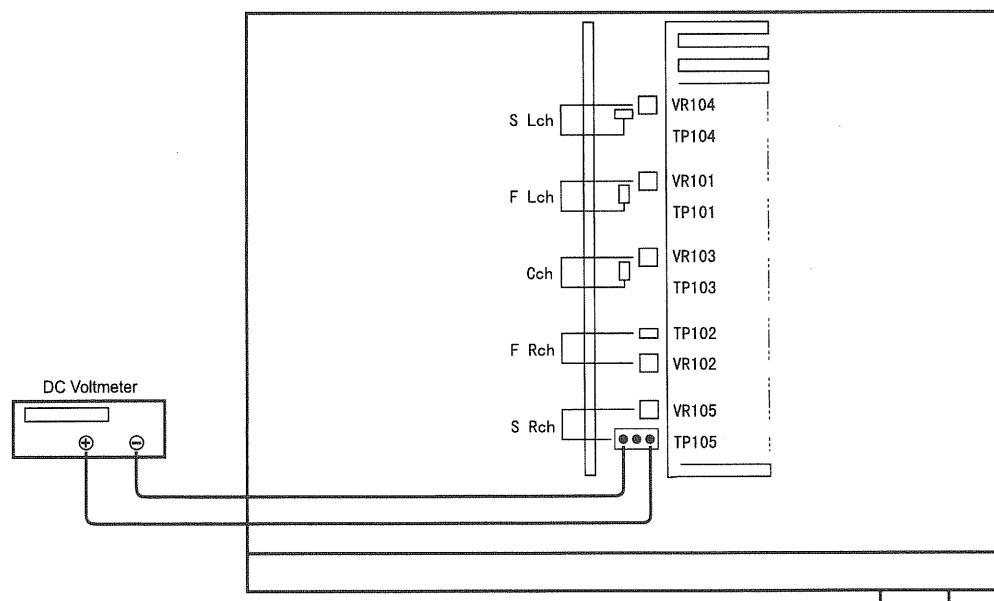
## Preparation

- (1) Avoid direct blow from an air conditioner or an electric fan, and adjust the unit at normal room temperature 15 °C ~ 30 °C (59 °F ~ 86 °F).
- (2) Presetting
  - POWER (Power source switch) → OFF
  - SPEAKER (Speaker terminal) → No load (Do not connect speaker, dummy resistor, etc.)

## Adjustment

- (1) Remove top cover and set VR101, VR102, VR103, VR104, VR105 on Amp. Unit at full counterclockwise (  ) position.
- (2) Connect DC Voltmeter to test points (FRONT-Lch: TP101, FRONT-Rch: TP102, CENTER ch: TP103, SURROUND-Lch: TP104, SURROUND-Rch: TP105).
- (3) Connect power cord to AC Line, and turn power switch "ON".
- (4) Presetting.
 

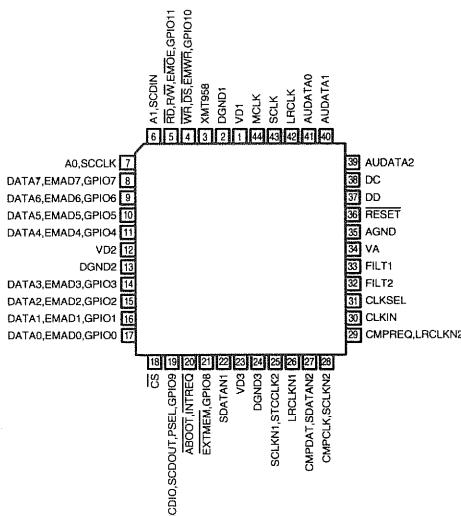
MASTER VOLUME	: "—" counterclockwise (  min.)
MODE	: 5CH STEREO
FUNCTION	: CD
- (5) Within 2 minutes after the power on, turn VR101 clockwise (  ) to adjust the TEST POINT voltage to 1.5 mV ±0.5 mV DC.
- (6) After 10 minutes from the preset above, turn VR101 to set the voltage to 2 mV ±0.5 mV DC.
- (7) Adjust the Variable Resistors of other channels in the same way.



# SEMICONDUCTORS

## ● ICs

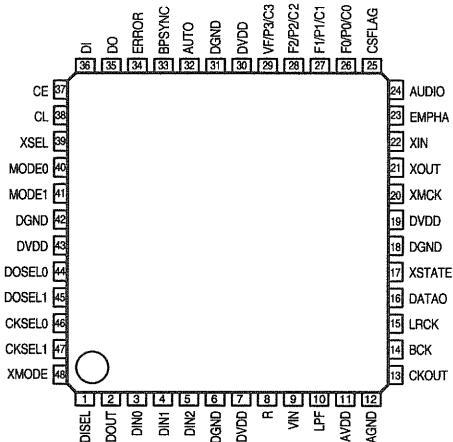
### CS492604-CLR (AU: IC812)



### CS492604-CLR Terminal Function

Pin No.	Pin Name	Function
1	VD1	Digital positive supply
2	DGND1	Digital supply ground
3	XMT958	SPDIF transmitter output
4	WR, DS, EMWR, GPIO10	Host write strobe or host data strobe or external memory write enable or general purpose input & output number 10
5	RD, R/W, EMOE, GPIO11	Host parallel output enable or host parallel R/W or external memory output enable or general purpose input & output number 11
6	A1, SCDIN	Host address bit one or SPI serial control data input
7	A0, SCCLK	Host parallel address bit zero or serial control port clock
8	DATA7, EMAD7, GPIO7	
9	DATA6, EMAD6, GPIO6	
10	DATA5, EMAD5, GPIO5	
11	DATA4, EMAD4, GPIO4	
12	VD2	Digital positive supply
13	DGND2	Digital supply ground
14	DATA3, EMAD3, GPIO3	
15	DATA2, EMAD2, GPIO2	
16	DATA1, EMAD1, GPIO1	
17	DATA0, EMAD0, GPIO0	
18	CS	Host parallel chip select, host serial SPI chip select
19	SCDIO, SCDOUT, PSEL, GPIO9	Serial control port data input and output, parallel port type select
20	INTREQ, ABOOT	Control port interrupt request, automatic boot enable
21	EXTMEM, GPIO8	External memory chip select or general purpose input & output number 8
22	SDATAN1	PCM audio data input number one
23	VD3	Digital positive supply
24	DGND3	Digital supply ground
25	SCLKN1, STCCLK2	PCM audio input bit clock
26	LRCLKN1	PCM audio input sample rate clock
27	CMPDAT, SDATAN2	PCM audio data input number two
28	CMPCLK, SCLKN2	PCM audio input bit clock
29	CMPREQ, LRCLKN2	PCM audio input sample rate clock
30	CLKIN	Master clock input
31	CLKSEL	DSP clock select
32	FILT2	Phase locked loop filter
33	FILT1	Phase locked loop filter
34	VA	Analog positive supply
35	AGND	Analog supply ground
36	RESET	Master reset input
37	DD	Reserved
38	DC	Reserved
39	AUDATA2	Digital audio output 2
40	AUDATA1	Digital audio output 1
41	AUDATA0	Digital audio output 0
42	LRCLK	Audio output sample rate clock
43	SCLK	Audio output bit clock
44	MCLK	Audio master clock

## LC89055W (IC810)

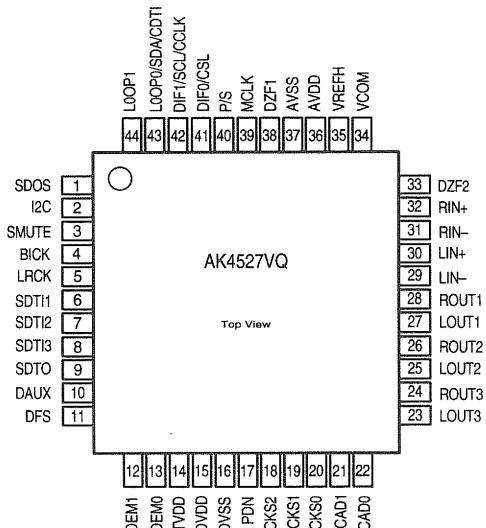


## LC89055W Terminal Function

Pin No.	Pin Name	I/O	Function
1	DISEL	I	Data input terminal (select input pin of DIN0, DIN1)
2	DOUT	O	Input bi-phase data through output terminal
3	DIN0	I	Amp built-in coaxial/optical input correspond data input terminal
4	DIN1	I	Amp built-in coaxial/optical input correspond data input terminal
5	DIN2	I	Optical input correspond data input terminal
6	DGND		Digital GND
7	DVDD		Digital power supply
8	R	I	VCO gain control input terminal
9	VIN	I	VCO free-run frequency setting input terminal
10	LPF	O	PLL loop filter setting terminal
11	AVDD		Analog power supply
12	AGND		Analog GND
13	CKOUT	O	Clock output terminal (256fs, 384fs, 512fs, X'tal osc., VCO free-run osc.)
14	BCK	O	64fs clock output terminal
15	LRCK	O	fs clock output terminal (L: Rch, H: Lch, I <sup>2</sup> S: Reverse)
16	DATAO	O	Data output terminal
17	XSTATE	O	Input data detecting result output terminal
18	DGND		Digital GND
19	DVDD		Digital power supply
20	XMCK	O	X'tal osc. clock output terminal (24.576MHz or 12.288MHz)
21	XOUT	O	X'tal osc. connection output terminal
22	XIN	I	X'tal osc. connection input terminal, external signal input possible (24.576MHz or 12.288MHz)
23	EMPHA	O	Emphasis information output terminal of channel status
24	AUDIO	O	Bit1 output terminal of channel status
25	CSFLAG	O	Top 40bit revise flag output terminal of channel status
26	F0/P0/C0	O	Input fs cal. sig. out/data type out/input word inf. output terminal
27	F1/P1/C1	O	Input fs cal. sig. out/data type out/input word inf. output terminal
28	F2/P2/C2	O	Input fs cal. sig. out/data type out/input word inf. output terminal
29	VF/P3/C3	O	Validity flag out/data type out/input word inf. output terminal
30	DVDD		Digital power supply
31	DGND		Digital GND
32	AUTO	O	Non PCM burst data transfer detect sig. output terminal
33	BPSYNC	O	Non PCM burst data preamble Pa, Pb, Pc, Pd sync sig. output terminal
34	ERROR	O	PLL lock error, data error flag output terminal
35	DO	O	CPU/IFD read data output terminal
36	DI	I	CPU I/F write data input terminal
37	CE	I	CPU I/F chip enable input terminal
38	CL	I	CPU I/F chip enable input terminal
39	XSEL	I	Frequency select input pin of XIN X'tal osc. (24.576MHz or 12.288MHz)
40	MODE0	I	Mode setting input terminal
41	MODE1	I	Mode setting input terminal
42	DGND		Digital GND
43	DVDD		Digital power supply
44	DOSEL0	I	Data output format select input terminal
45	DOSEL1	I	Data output format select input terminal
46	CKSEL0	I	Output clock select input terminal
47	CKSEL1	I	Output clock select input terminal
48	XMODE	I	Reset input terminal

• For latch-up countermeasure, set digital (DVDD) and analog (AVDD) power on/off in the same timing.

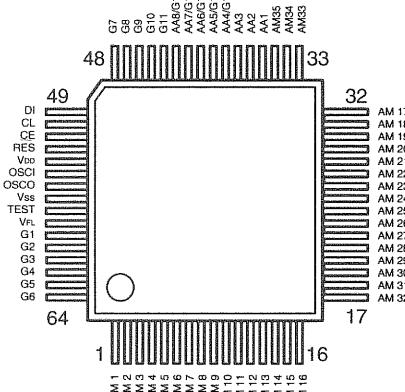
## AK4527VQ (IC813)



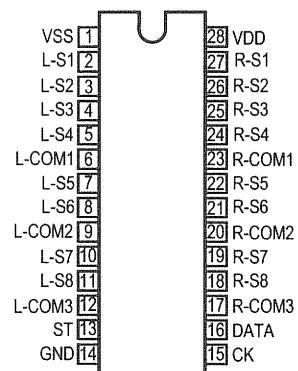
## AK4527VQ Terminal Function

Pin No.	Pin Name	I/O	Function
1	SDOS	I	SDTO source select pin, L: Internal ADC output, H: DAUX input
2	I <sup>2</sup> C	I	Serial control mode select pin, L: 3-core serial, H: I <sup>2</sup> C bus
3	SMUTE	I	Soft mute pin, H: Soft mute start, L: Release
4	BICK	I	Audio serial data clock pin
5	LRCK	I	Input channel clock pin
6	SDT11	I	DAC1 audio serial data input pin
7	SDT12	I	DAC2 audio serial data input pin
8	SDT13	I	DAC3 audio serial data input pin
9	SDTO	O	Audio serial data output pin
10	DAUX	I	Auxiliary audio serial data input pin
11	DFS	I	Double speed sampling mode pin, L: Normal, H: Double
12	DEM1	I	De-emphasis-1 pin
13	DEM0	I	De-emphasis-2 pin
14	TVDD	—	Power pin for output buffer, 2.7V~5.5V
15	DVDD	—	Digital power pin, 4.5V~5.5V
16	DVss	—	Digital GND pin, 0V
17	PDN	I	Power down & reset pin, L: Powered-down and register initialized, Reset with PDN when switching CAD0-1
18	ICKS2	I	Input clock select-2 pin
19	ICKS1	I	Input clock select-1 pin
20	ICKS0	I	Input clock select-0 pin
21	CAD1	I	Chip address-1 pin
22	CAD0	I	Chip address-0 pin
23	LOUT3	O	DAC3L channel analog out pin
24	ROUT3	O	DAC3R channel analog out pin
25	LOUT2	O	DAC2L channel analog out pin
26	ROUT2	O	DAC2R channel analog out pin
27	LOUT1	O	DAC1L channel analog out pin
28	ROUT1	O	DAC1R channel analog out pin
29	LIN-	I	L-ch analog inverted input pin
30	LIN+	I	L-ch analog non-inverted input pin
31	RIN-	I	R-ch analog inverted input pin
32	RIN+	I	R-ch analog non-inverted input pin
33	DZF2	O	0 input detect 2 pin, H: Input data of G2 is 8192 times "0" in a raw or RSTN bit "0", L: When P/S= "0"
34	VCOM	O	Common V-out pin, AVDD/2, connect large capacitor to avoid noise
35	VREFH	I	Ref. V input pin, AVDD
36	AVDD	—	Analog GND pin, 4.5V~5.5V
37	AVss	—	Analog GND pin, 0V
38	DZF1	O	0 input detect pin, H: Input data of G1 is 8192 times "0" in a raw or RSTN bit "0", L: When P/S= "0"
39	MCLK	I	Master clock input pin
40	P/S	I	Parallel/Serial select pin, L: Serial control
41	DIFO	I	Audio data I/F format 0 pin (parallel control)
	CSN	I	Chip select pin (3-wire serial control), connect to DVDD when I <sup>2</sup> C bus control
42	DIFI	I	Audio data I/F format 1 pin (parallel control)
	SCL/CCLK	I	Control data clock pin (serial control), I <sup>2</sup> C="L": CCLK (3-wire serial), I <sup>2</sup> C="H": SCL (I <sup>2</sup> C bus)
43	LOOP0	I	Loop back mode 0 pin (parallel control), effects digital loop back ADC to all DAC
	SDA/CDTI	I/O	Control data input pin (serial control), I <sup>2</sup> C="L": CCTI (3-wire serial), I <sup>2</sup> C="H" SDA (I <sup>2</sup> C bus)
44	LOOP1	I	Loop back mode 1 pin, from SDT1 to all DAC

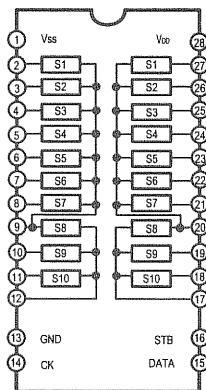
## LC75721E (C301)



## KIC9164AN(C221)



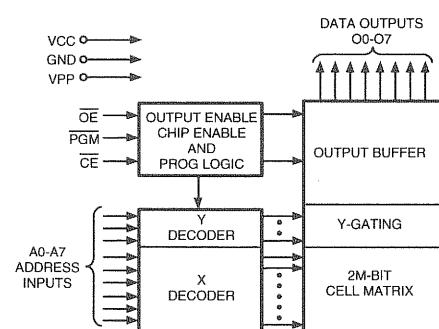
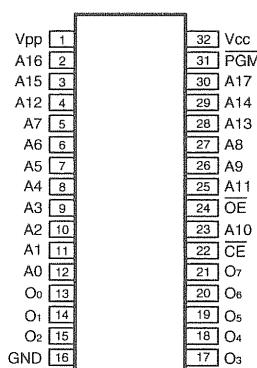
## TC9273N-007(IC701)



## TC9273N Terminal Function

Pin No	Symbol	Name	Function
1	Vss	+Power Terminal	Dual Power Use: VDD = 8.0~17 V Single Power Use: VDD = 8.0~18V
13	GND	Digital Ground	GND=0V
28	Vdd	+Power Terminal	GND=0V
2~12 12~27	S1~S10	I/O Terminal	Vss=-8.0~-17V
14	CK	Clock Input	Input terminal of analog switch.
15	DATA	Data Input	Clock input for data transfer.
16	STB	Strobe Input	Serial input for switch setting.
			Low level Border Input Terminal

## W27C020(IC807)

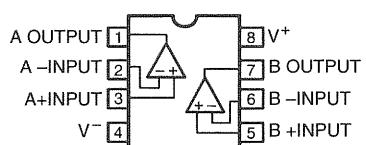


## NJM2068DD

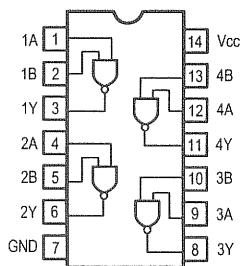
(IC241,251,261,271,281,291,702,703)

## BA4510F(IC805~806)

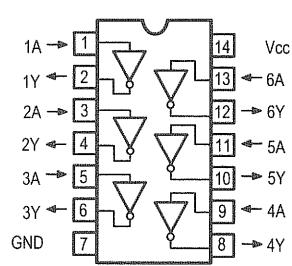
## NJM2068MD (IC814~816)



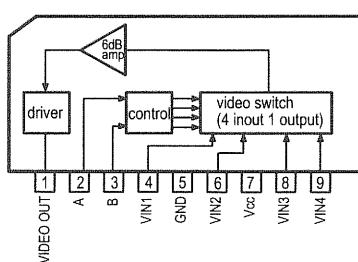
## SN74LV00APW(IC822)

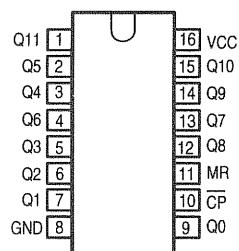


## MC74HCU04AD(IC803)



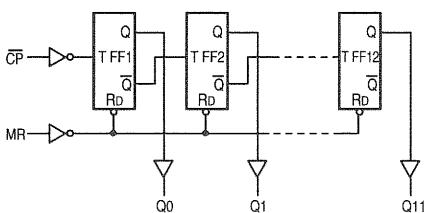
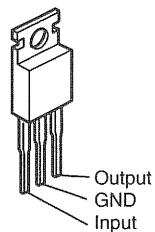
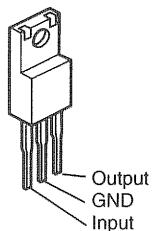
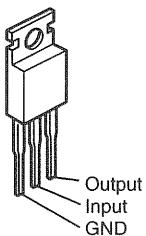
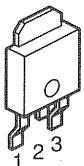
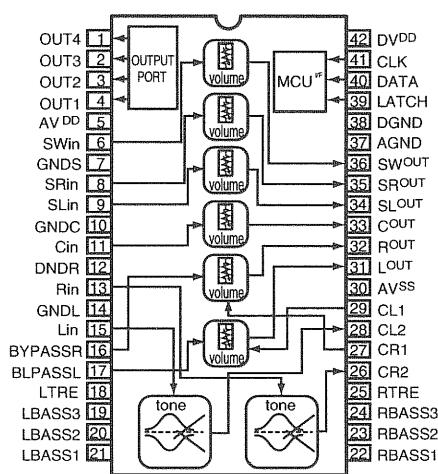
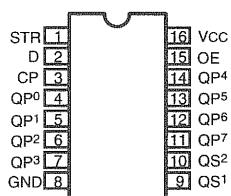
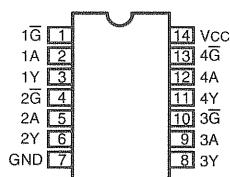
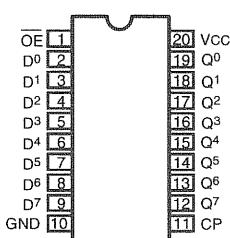
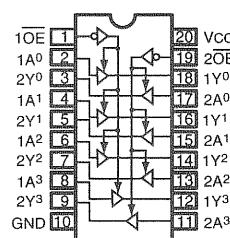
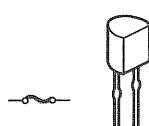
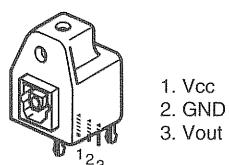
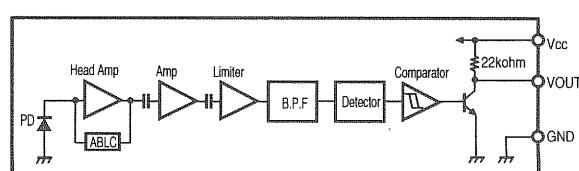
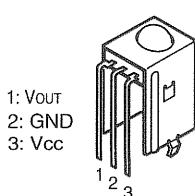
## LA7952(IC601,651,652)



**SN74LV4040 (IC831)****Terminal Function**

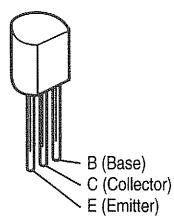
INPUTS		OUTPUTS
CP	MR	Qn
↑	L	no change
↓	L	count
X	H	L

H=HIGH voltage level  
L=LOW voltage level  
X=don't care  
↑=LOW-to-HIGH clock transition  
↓=HIGH-to-LOW clock transition

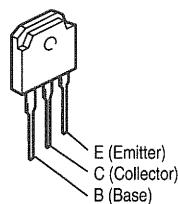
**KA7805 (IC103,104)  
KA7815 (IC101)  
KIA7812 (IC602)****NJM7805FA (S)  
(IC829)****KIA7915 (IC102)****BA033FP (IC811)****M62446FP (IC231)****PC74HC4094 (IC302)****TC74HC125D (IC821)****PC74HCT574 (IC808,809)****TC74HCT244 (IC828,830)****● IC PROTECTOR****ICP-N15 (IC105)****● POSISTOR****P43T7D330BW16****● OPTICAL OUT****GP1F37R1 (IC802)****● IR SENSOR****NJL64H380A(RMC301)**

## ● TRANSISTOR

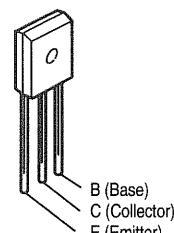
KTC2874 (B)  
2SC3199(Y)  
KSC1845 (F)  
KTA1266 (Y)  
KTA1268 (BL)  
KTC3198(Y)  
KTC3200 (BL)  
KSA992 (F)



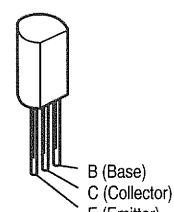
2SB1559  
2SD2389



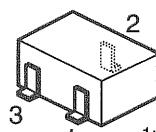
2SC4137



KSA916(Y)

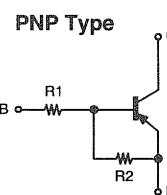
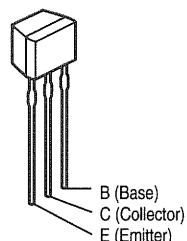


2SC2412K(S)



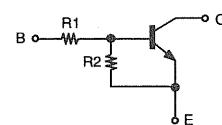
1: GND/(Emitter)  
2: Output/(Collector)  
3: Input/(Base)

DTA114ES(PNP)  
DTA144ES(PNP)  
DTC144ES(NPN)  
DTC114YS(NPN)



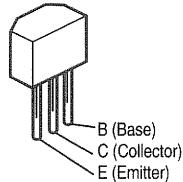
	R1	R2
DTA114ES	10kohm	10kohm
DTA144ES	47kohm	47kohm

NPN Type

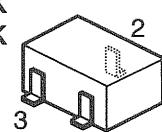


	R1	R2
DTC114YS	10kohm	47kohm
DTC144ES	47kohm	47kohm

2SC1740S

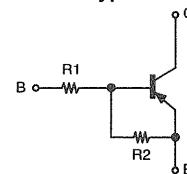


DTA114EK  
DTA144EK  
DTC114EK  
DTC144EK



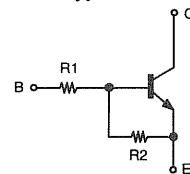
1: GND/(Emitter)  
2: Output/(Collector)  
3: Input/(Base)

PNP Type



	R1	R2
DTA114EK	10kohm	10kohm
DTA144EK	47kohm	47kohm

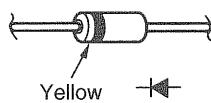
NPN Type



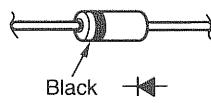
	R1	R2
DTC114EK	10kohm	10kohm
DTC144EK	47kohm	47kohm

## ● DIODES (LED Included)

1SS133



1N4004A



MTZJ9.1B

MTZJ5.6B

MTZJ6.2B

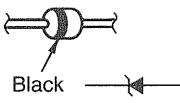
MTZJ18B

MTZJ20B

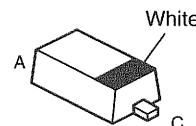
MTZJ3.3B

MTZJ7.5A

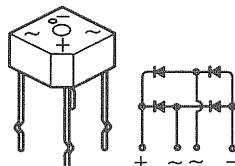
MTZJ7.5B



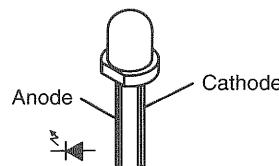
KDS160



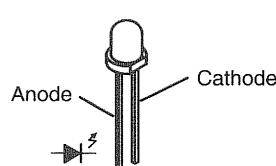
KBPC604



HL50RDRF4T  
(LED301~307)

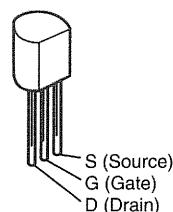


HL-30RDRF3  
(LED308,309)



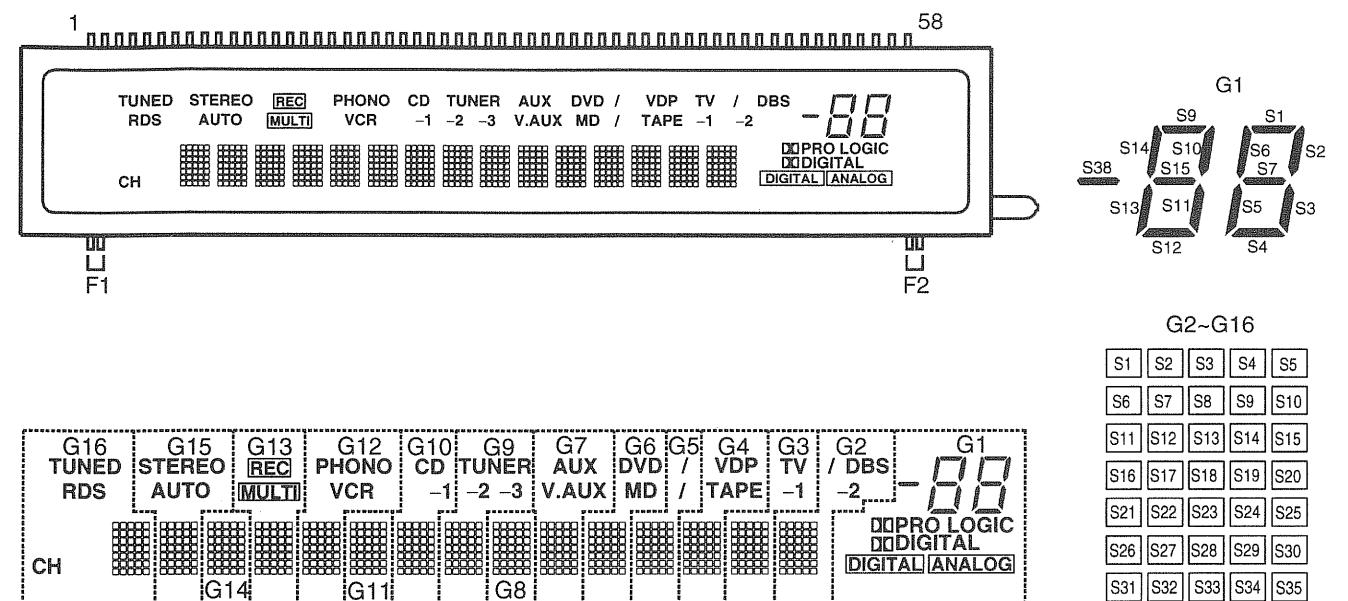
## ● FET

2SK117(Y)



● FL DISPLAY

16-st-42GNK (FL301)



## Pin Assignment

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CONNECTION	F1	F1	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
PIN NO.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CONNECTION	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30	S31	S32	S33	S34	S35	S36	S37	S38
PIN NO.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		
CONNECTION	G16	G15	G14	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	F2	F2		

F1,F2 : Filament  
G1~G16 : Grid  
S1~S38 : Anode

## Anode & Grid Assignment

	G1	G2~G16		G1	G2~G16		G1	G2~G16		G1	G2~G16
S1	S1	S1	S10	S10	S10	S19	—	S19	S28	—	S28
S2	S2	S2	S11	S11	S11	S20	—	S20	S29	—	S29
S3	S3	S3	S12	S12	S12	S21	—	S21	S30	—	S30
S4	S4	S4	S13	S13	S13	S22	—	S22	S31	—	S31
S5	S5	S5	S14	S14	S14	S23	—	S23	S32	—	S32
S6	S6	S6	S15	S15	S15	S24	—	S24	S33	—	S33
S7	S7	S7	S16	—	S16	S25	—	S25	S34	—	S34
S8	—	S8	S17	DIGITAL	S17	S26	—	S26	S35	—	S35
S9	S9	S9	S18	PRO LOGIC	S18	S27	—	S27			

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12	G13	G14	G15	G16
S36	DIGITAL	/	TV	VDP	/(DVD)	DVD	AUX	—	TUNER	CD	—	PHONO	REC	—	STEREO	TUNED
S37	ANALOG	-2	-1	TAPE	/(MD)	MD	V.MAX	—	-2	-1	—	VCR	MULTI	—	AUTO	RDS
S38	S38	DBS	—	—	—	—	—	—	-3	—	—	—	—	—	—	CH

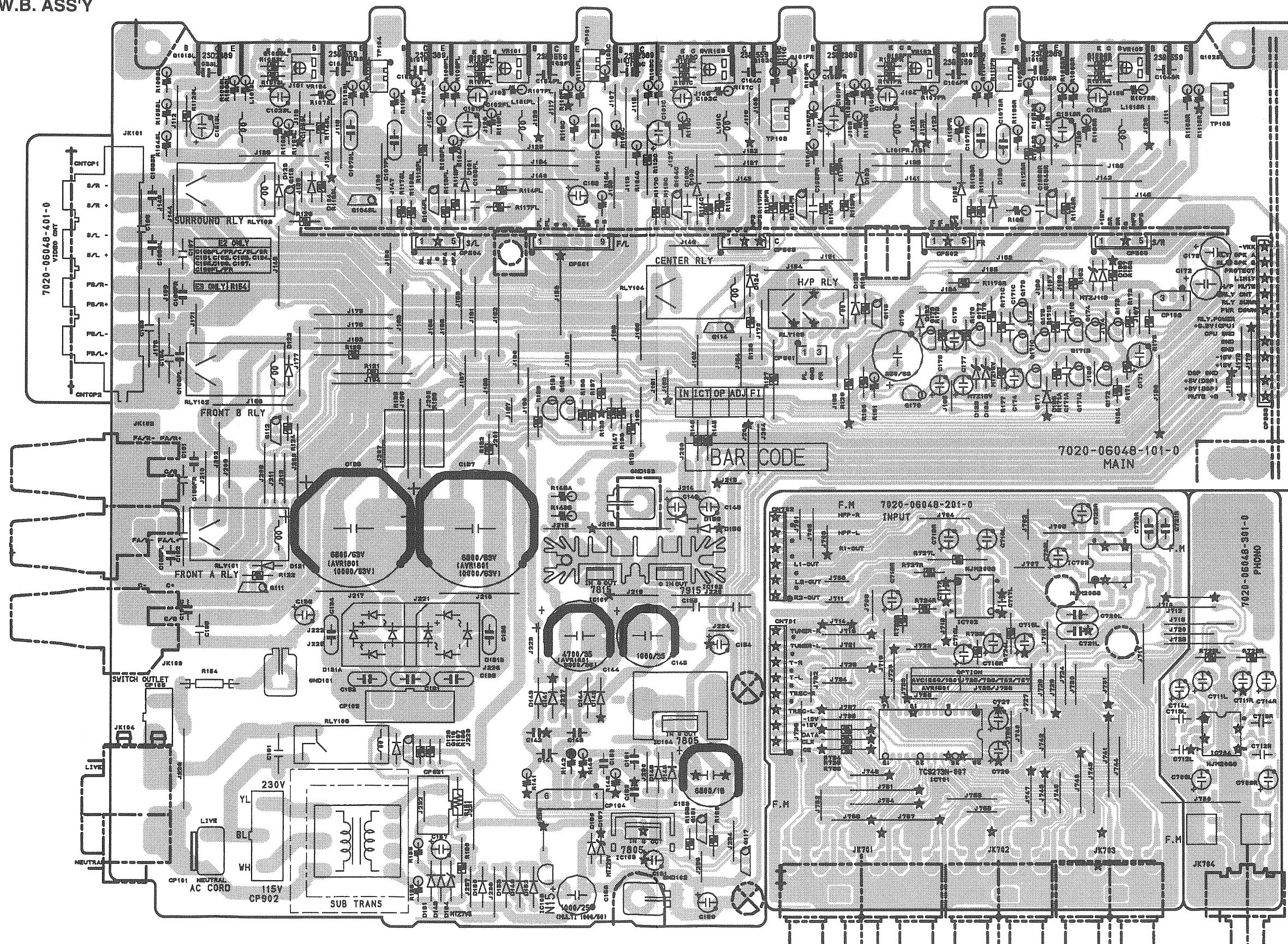
## PRINTED WIRING BAORDS

1

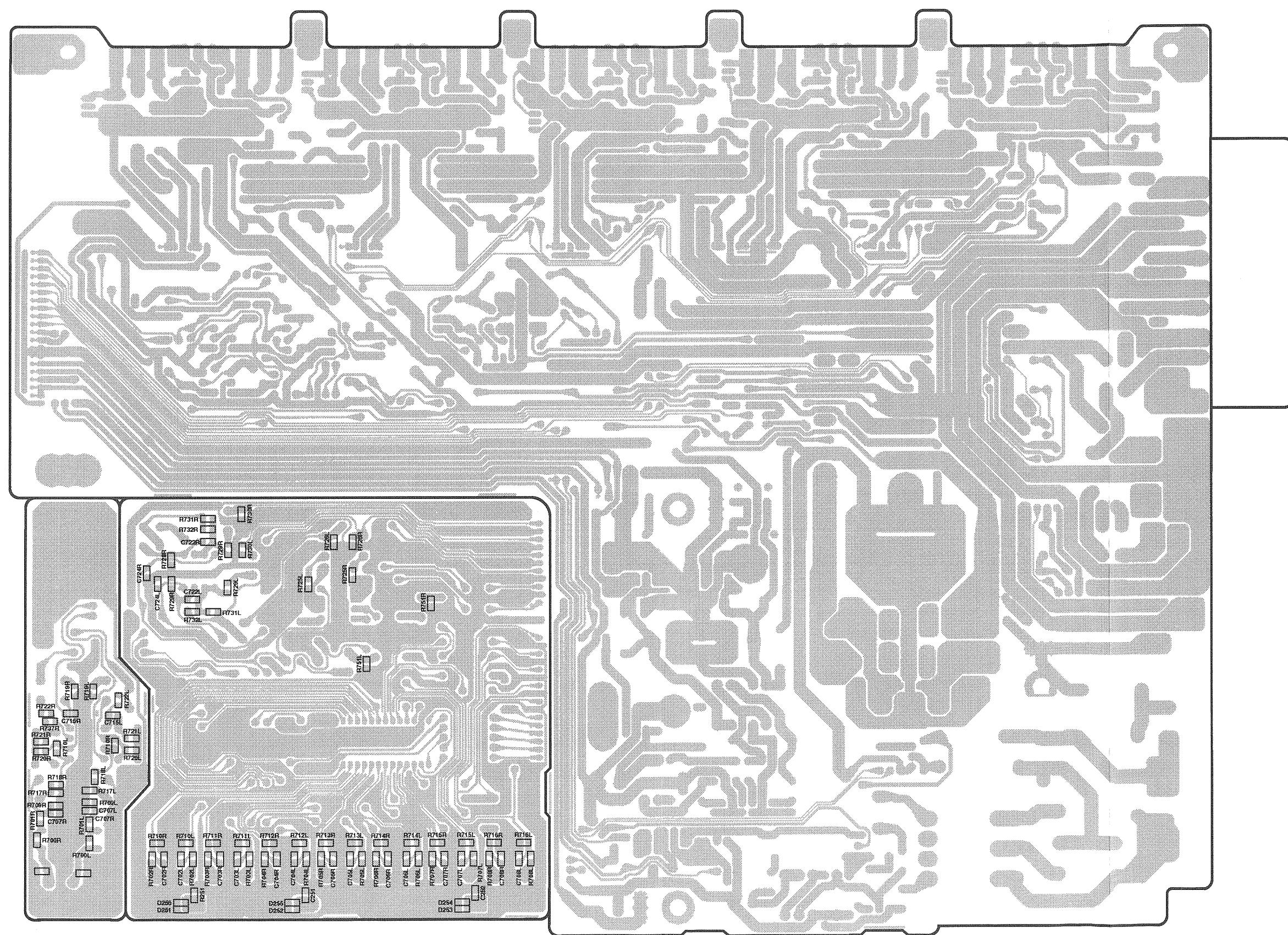
2

8

## MAIN P.W.B. ASS'Y



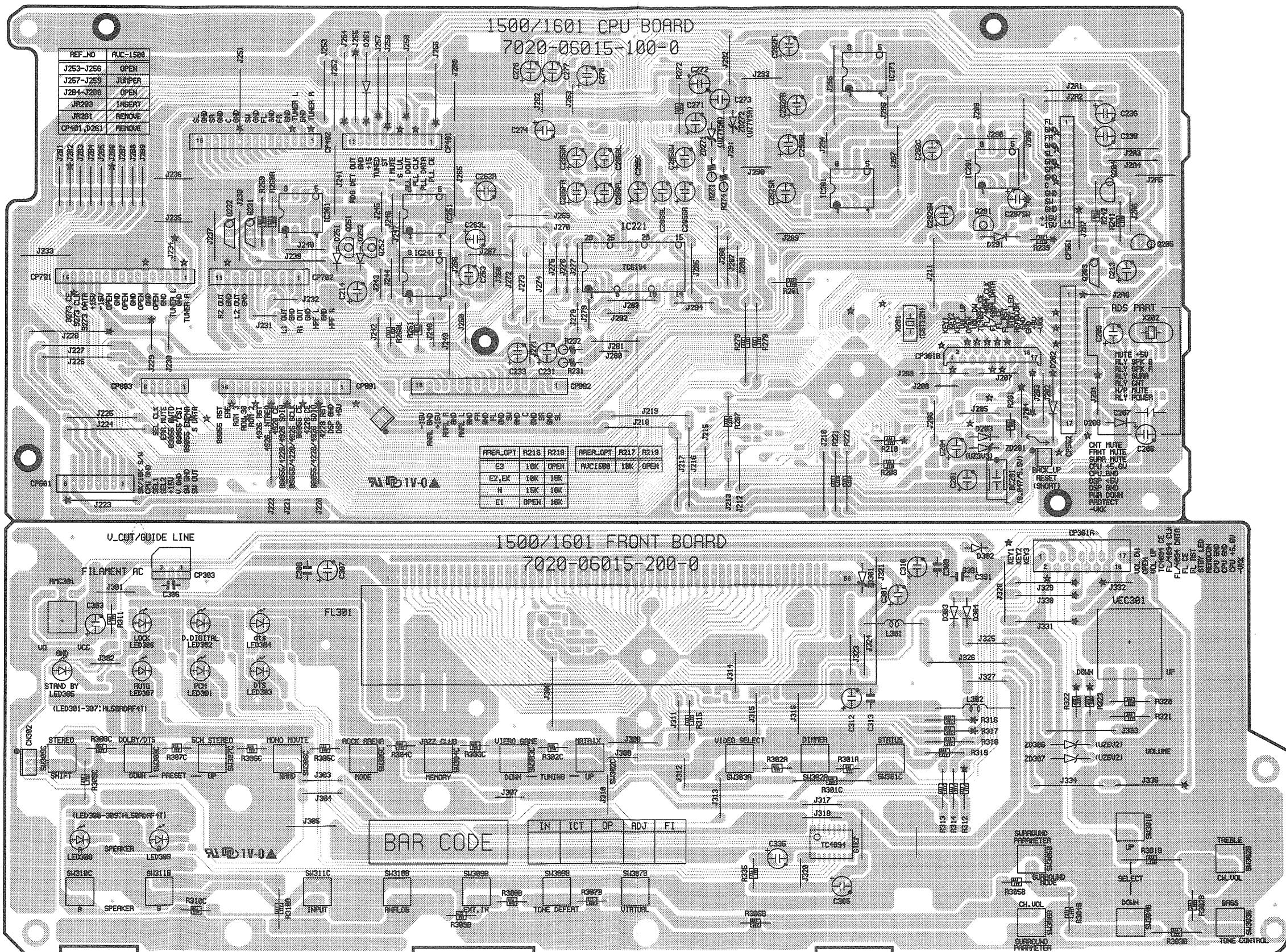
**COMPONENT SIDE**



FOIL SIDE

1 2 3 4 5 6 7 8

## PROCESSOR P.W.B. ASS'Y



COMPONENT SIDE

1

2

3

4

5

6

7

8

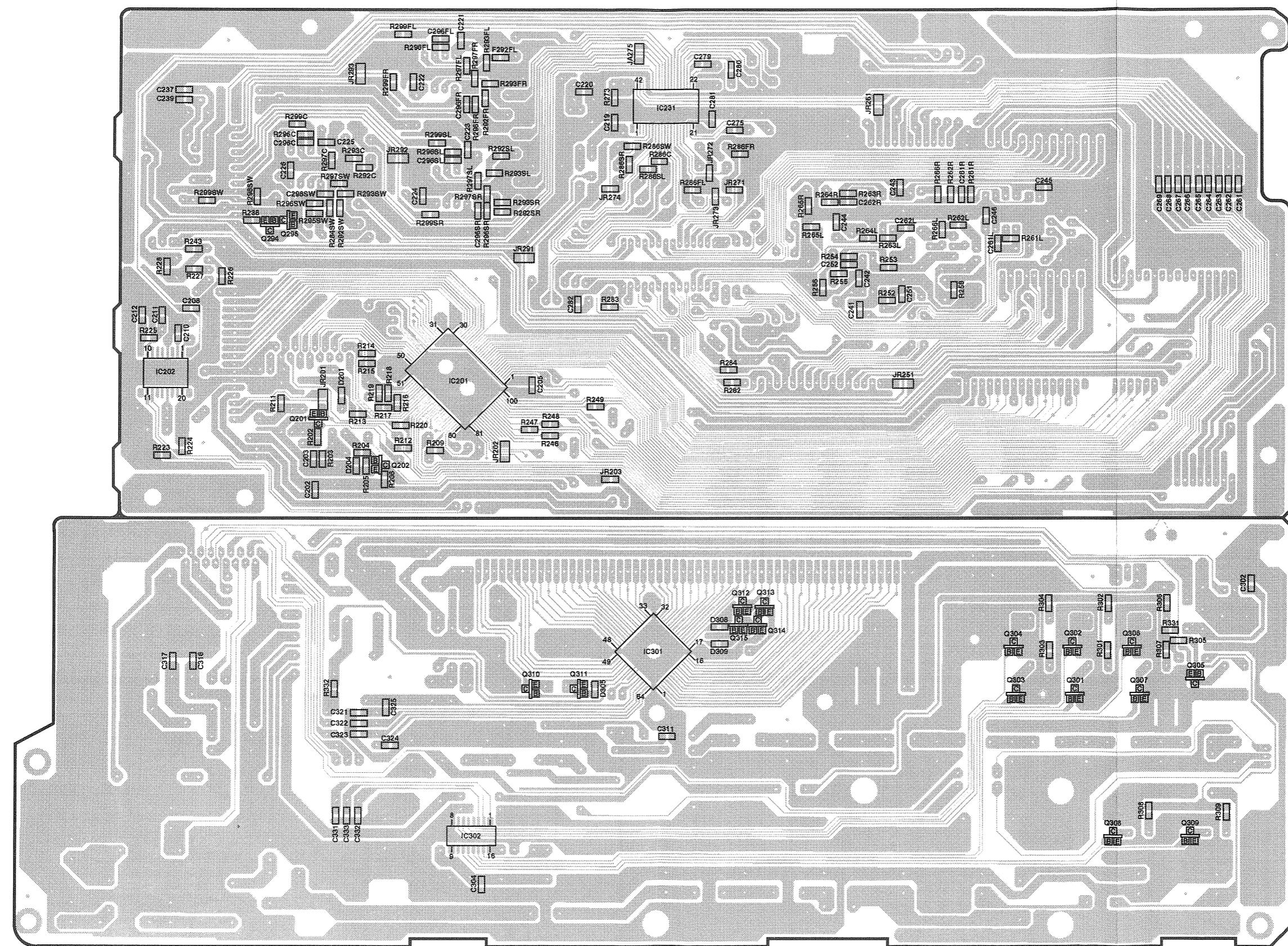
A

B

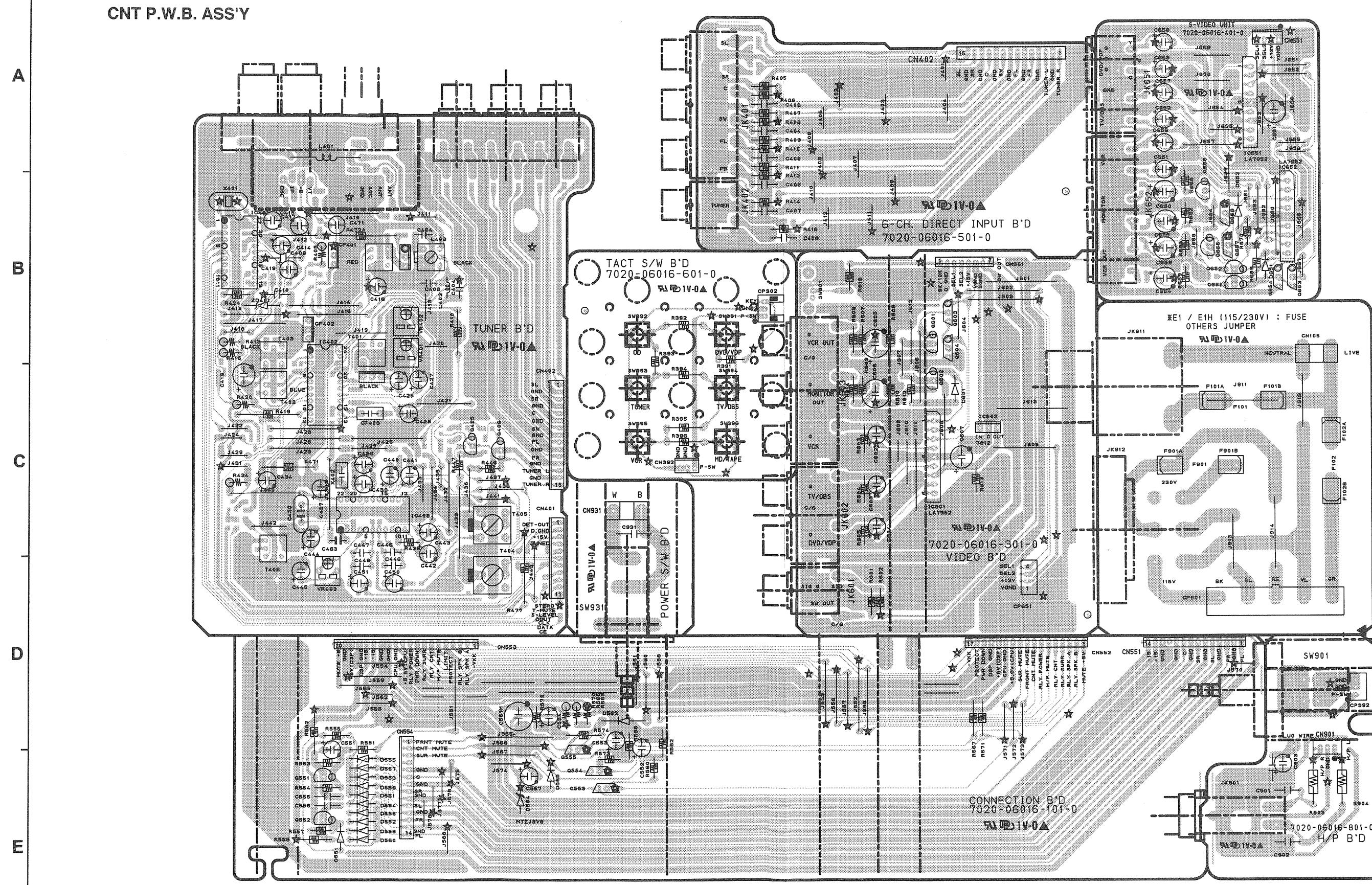
C

D

E



CNT P.W.B. ASS'Y



**COMPONENT SIDE**

1

2

1

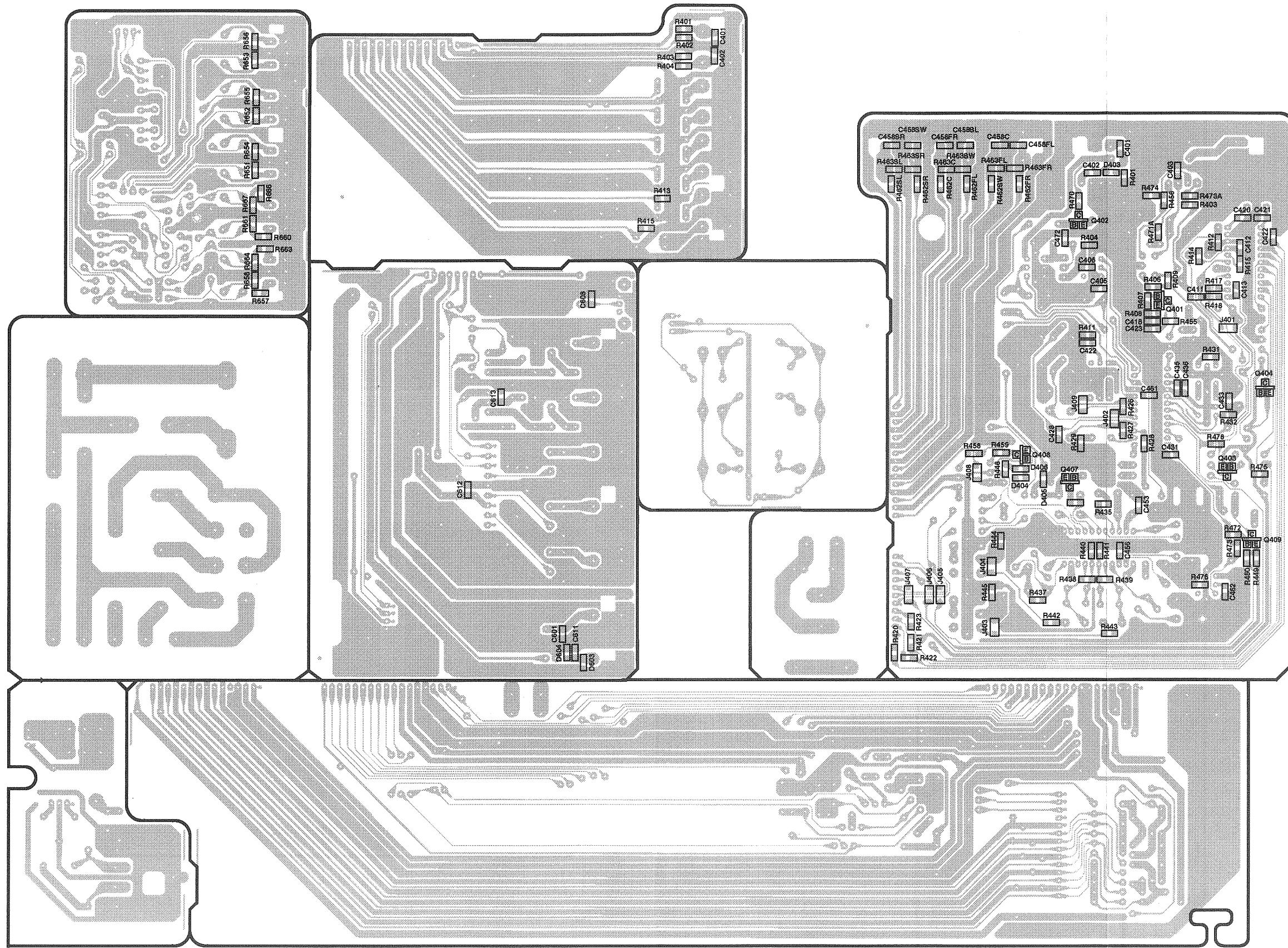
1

1

1

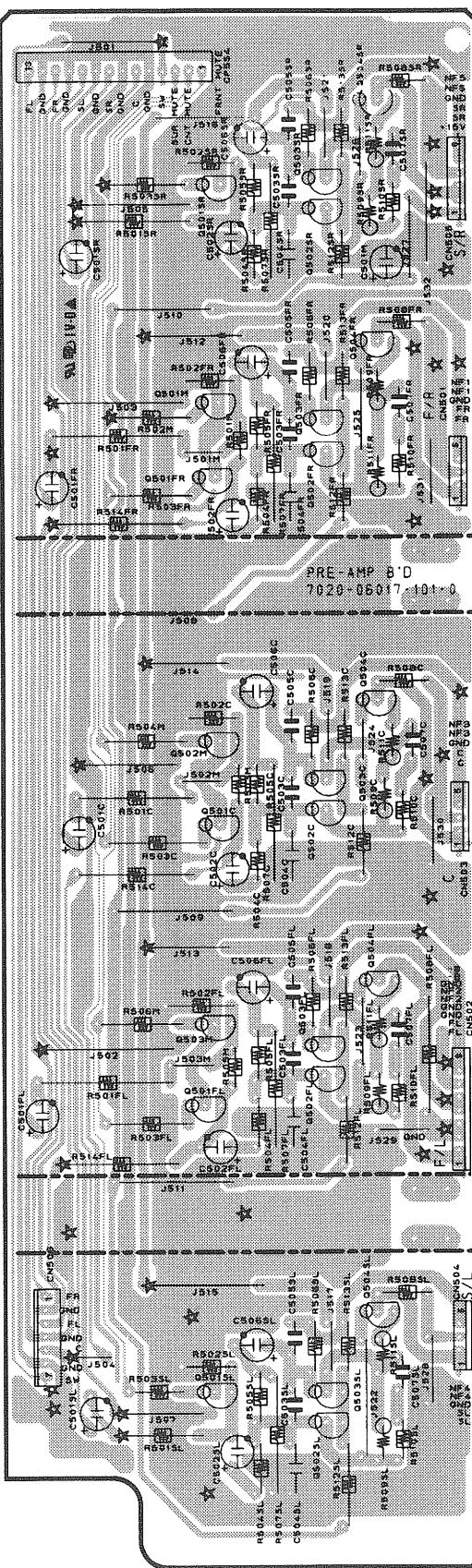
1

8



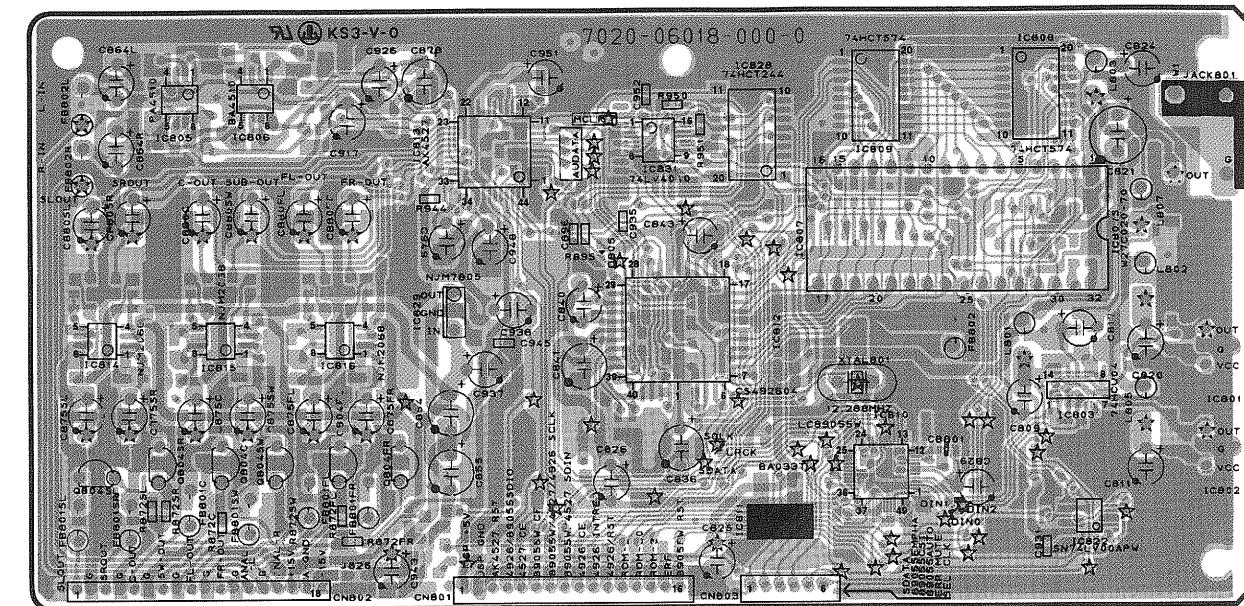
FOIL SIDE

## PRE-AMP P.W.B. ASS'Y

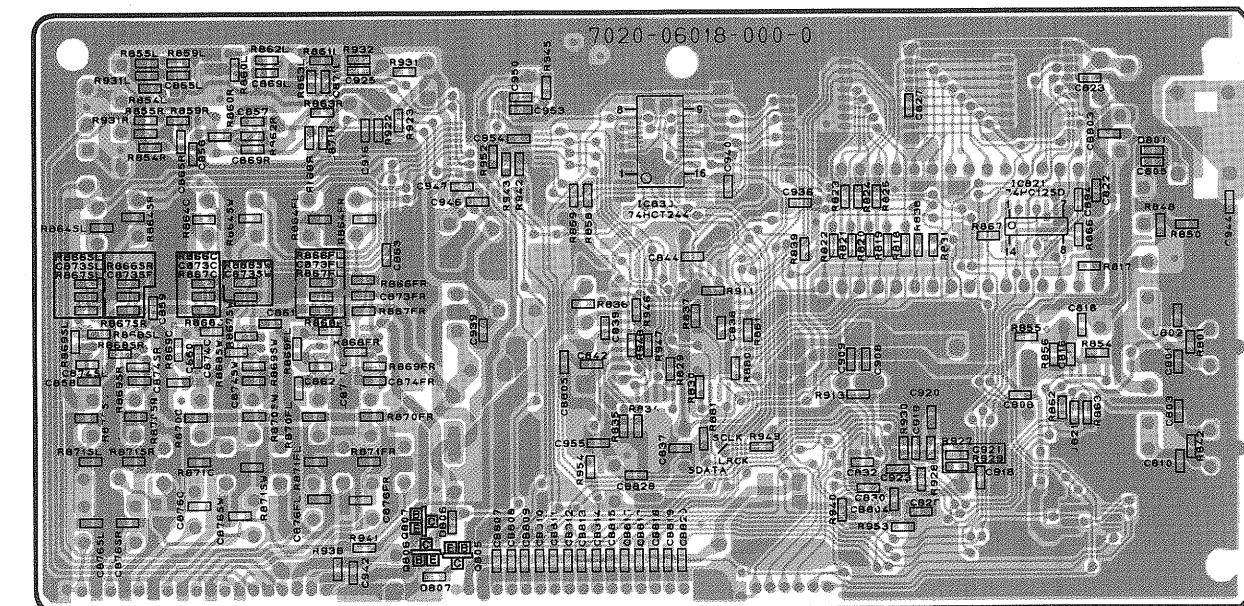


**COMPONENT SIDE**

DSP P.W.B. ASS'Y



**COMPONENT SIDE**



**FOIL SIDE**

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
C443		Electrolytic 10μF/35V	D040100085100	C656~658		Electrolytic 47μF/10V	D040470082050
C444		Electrolytic 4.7μF/50V	D0404R7087100			for E3,EU,E1,E1C, E1H,E1T	
C445		Electrolytic 10μF/35V	D040100085100	C659,660		Electrolytic 470μF/10V	D040471082060
C446,447		Ceramic 270pF/50V	D004271277050 for E3,EU			for E3,EU,E1,E1C, E1H,E1T	
C446,447		Ceramic 330pF/50V	D000331167070 for E2	C661		Electrolytic 100μF/16V	D040101083100
C446,447		Ceramic 180pF/50V	D000181067060 for E1,E1C,E1H,E1T	C662,663		Ceramic chip 0.047μF/50V	D011473777200 for E3,EU,E1,E1C, E1H,E1T
C448,449		Ceramic 470pF/50V	D004471067060 for E3,EU	C901,902		Ceramic 0.001μF/50V	D005102177530
C448,449		Ceramic 330pF/50V	D000331167070 for E1,E1C,E1H,E1T	C903		Electrolytic 1μF/50V	D04010087080
C450,451		Electrolytic 10μF/35V	D040100085100	C904	960 9003 108	Ceramic 0.022μF/25V	D005223594520
C453		Ceramic chip 27pF/50V	D010270167200				
C456		Ceramic chip 680pF/50V	D010681167200				
C461		Ceramic chip 27pF/50V	D010270167200				
C462		Ceramic chip 470pF/50V	D010471167200 for E2				
C462C,FL, FR,SL,SR, SW		Ceramic chip 220pF/50V	D010221167200	CF401	960 0187 104	Ceramic filter SFE10.7MA8	E430107000140 for E3,EU
C463		Mylar film 0.056μF/100V	D02056306C060	CF401	960 0177 509	Ceramic filter SFE10.7MS3GH	E430107000150 for E2
C464		Ceramic 3pF/50V	D000030007050	CF401	960 0187 104	Ceramic filter SFE10.7MA8	E430107000140 for E1,E1C, E1H,E1T
C471VT		Electrolytic 1μF/50V	D04010087080	CF402	960 0187 104	Ceramic filter SFE10.7MA8	E430107000140 for E3,EU
C472VT		Ceramic chip 0.047μF/50V	D011473777200	CF402	960 0177 509	Ceramic filter SFE10.7MS3GH	E430107000150 for E2
C551		Electrolytic 2.2μF/50V	D0402R2087100	CF402	960 0177 509	Ceramic filter SFE10.7MS3GH	E430107000150 for E2
C551M		Electrolytic 100μF/35V	D040101085100	CF402	960 0177 509	Ceramic filter SFE10.7MS3GH	E430107000150 for E2
C551S		Ceramic 0.047μF/50V	D005473597520	CF402	960 0177 509	Ceramic filter SFE10.7MS3GH	E430107000150 for E1,E1C, E1H,E1T
C552~554		Electrolytic 0.1μF/50V	D040R10087070	CF403	960 0187 609	Ceramic resonator	E830450000070
C555,556		Ceramic 0.01μF/16V	D005103773530	CN392	960 0198 009	2P connector cord	L000800020040 for E3,EU
C557		Electrolytic 10μF/35V	D040100085050	CN401	963 0046 600	11P connector base	L101352371110
C601		Ceramic chip 100pF/50V	D010101167200	CN402	963 0049 607	15P connector base	L101352371510
C602~604		Electrolytic 47μF/10V	D040470082050	CN551	960 0124 604	14P connector base	L101352371410
C605,606		Electrolytic 470μF/6.3V	D040471081100	CN552	963 0049 704	17P connector base	L101352371710
C607		Electrolytic 100μF/16V	D040101083100	CN553	963 0049 801	20P connector base	L101352372010
C608		Ceramic chip 100pF/50V	D010101167200 for E1,E1H,E1T	CN554	960 0198 106	14P connector cord	L000800140010
C608		Carbon chip 0 ohm 1/10W	C200000060200 for E1C	CN601	963 0046 309	8P connector base	L101352370810
C611		Ceramic chip 0.01μF/50V	D011103777200	CN651	960 0197 903	4P connector cord	L000141040010
C612,613		Ceramic chip 0.047μF/50V	D011473777200			for E3,EU,E1,E1C, E1H,E1T	
C651~653		Electrolytic 47μF/10V	D040470082050 for E3,EU,E1,E1C, E1H,E1T	CN901	960 0197 301	3P connector cord	L352103263300
C654,655		Electrolytic 470μF/10V	D040471082060 for E3,EU,E1,E1C, E1H,E1T	CP302	963 0049 908	3P connector base	L101220030010
				CP392	963 0048 909	3P connector base	L101220030000
						for E3,EU	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
CP392	960 0059 707	2P connector base	L000351020040 for E2,E1,E1C, E1H,E1T	1		960 0181 401	4P S terminal	G403040010010 for E3,EU,E1, E1C,E1H,E1T	1
CP651	963 0050 104	4P connector base	L101220040000 for E3,EU,E1, E1C,E1H,E1T	1	—	960 0176 209	Push switch	G000122000010 for E3,EU	1
FE401	960 0187 706	Front end	E900401010020	1	—	960 0187 502	Head phone jack(D6.5)	G402038400031	1
G901	—	1P wire	8410800010010	1					
J403,404		Carbon chip 0 ohm 1/10W	C200000061300 for E3,EU,E1, E1C,E1H,E1T	2					
L401	963 0052 102	Inductor 1 $\mu$ H	D3301R0001020	1					
L402	960 0010 307	Inductor 10 $\mu$ H	D330100700520	1					
L403	963 0056 409	MW IF COIL RBW07VB-K5025 BLK	D950500500010	1					
SW391-396	963 0045 708	Tact switch	G180000270010	6					
SW601	963 0056 700	SLIDE SW	G060110100010 for E1,E1H,E1T	1					
SW901	963 0056 603	Push switch	G000040890000 for E2,E1,E1C, E1H,E1T	1					
SW901	960 0176 209	Push switch	G000122000010 for E3,EU	1					
T401	960 0186 600	MW IF COIL PCFMAF-270	D950500200000	1					
T402	960 0007 349	FM DET TRANS	D951561100000	1					
T403	960 0007 352	FM DET TRANS	D951561200000	1					
T404,405	960 0071 207	MPX filter	E401500100000	2					
T406	960 0037 607	antibirdie filter	E403126832410 for E2	1					
X401	960 0187 405	Crystal 7.2 MHz	E8007R2000071	1					
X402	963 0043 302	Resonator CSB456F11	E830456000050	1					
—	960 0184 000	Screw bracket	4010210196000	2					
—	963 0054 003	Shield tuner pack	3070210056000	1					
—	960 0184 602	Plaate	4470210146000	1					
—	963 0052 403	3P antenna terminal	G593021068010	1					
—	960 0188 307	6P pin jack	G603060610010	1					
—	960 0194 508	1P pin jack	G600010003020	1					
—	960 0194 605	2P pin jack	G601020163010	1					
—	960 0188 404	3P pin jack	G606030164020	1					
—	960 0181 304	3P S terminal	G402042190000 for E3,EU,E1, E1C,E1H,E1T	1					

## AMP P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
Q501C,FL, FR,SL,SR	960 0196 603	Transistor KTC2874B	J502287400010
Q502C,FL, FR,SL,SR	960 0196 205	Transistor KSA992F	J5000992F0050
Q503C,FL, FR,SL,SR			
Q504C,FL, FR,SL,SR	960 0196 506	Transistor KSC1845F	J5021845F0000
<b>RESISTORS GROUP</b>			
R509C,FL, FR,SL,SR	960 9005 902	Metal film 1.2 kohm 1/4W	C060012263050
R511C,FL, FR,SL,SR	960 9004 301	Metal film 47 ohm 1/4W	C060047063050
<b>CAPACITORS GROUP</b>			
C501C,FL, FR,SL,SR		Electrolytic 22μF/16V	D040220083070
C501M		Electrolytic 10μF/35V	D040100085100
C502C,FL, FR,SL,SR		Electrolytic 10μF/35V	D040100085100
C503C,FL, FR,SL,SR	963 9003 165	Ceramic 220pF/500V	D009092212500
C504C,FL, FR,SL,SR	963 9003 178	Ceramic 220pF/50V	D005221277520
C505C,FL, FR,SL,SR	963 9003 181	Ceramic 33pF/500V	D00033006D050
C506C,FL, FR,SL,SR		Electrolytic 100μF/10V	D040101082060
C507C,FL, FR,SL,SR	963 9003 194	Mylar film 0.0022μF/100V	D02022206C060
<b>OTHER PARTS GROUP</b>			Q'ty
CN501	963 0046 406	9P connector socket	L101352370910 1
CN502~504	963 0050 201	5P connector socket	L101352370510 3
CN505	963 0050 308	6P connector socket	L101352370610 1
CP554	963 0050 405	14P connector base	L101220140000 1
—	960 0184 000	Screw bracket	4010210196000 2

## DSP P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
<b>SEMICONDUCTORS GROUP</b>			
IC802	960 0180 800	Optical connector (GP1F37R1)	E100137000010
IC803	963 0023 500	IC MC74HCU04AD	J040740400200
IC805,806	963 0043 807	IC BA4510F	J121451000010
IC807	960 0195 002	IC W27C020	J000270200010
IC807S	963 0025 508	32P IC socket	G450320000010
IC808,809	960 0179 206	IC DC74HCT574	J040745740040
IC810	960 0195 507	IC LC89055W	J046890550010
IC811	960 0195 905	IC BA033FP	J12603R300020
IC812	960 0195 701	IC CS492604-CL	262 2657 907
IC813	960 0195 604	IC AK4527VQ	J080452700010
IC814~816	960 0174 502	IC NJM2068DD	J121206800020
IC821	960 0195 206	IC TC74HC125D	J040741250130
IC822	960 0195 109	IC SN74LV00APW	J040740000170
IC828	963 0043 409	IC DC74HCT244	J040742440080
IC829	960 0196 001	IC NJM7805FA (S)	J126780500130
IC830	963 0043 409	IC DC74HCT244	J040742440080
IC831	960 0195 303	IC SN74LV4040	J040744040030
Q804C,FL, FR,SL,SR, SW	960 0196 603	Transistor KTC2874B	J502287400010
Q805	269 0083 901	Transistor DTA114EK	J5200114E0210
Q806	269 0082 902	Transistor DTC114EK	J5220114E0210
Q807	269 0083 901	Transistor DTA114EK	J5200114E0210
D801	960 0197 000	Diode KDS160	K005016000010
D803~807	960 0197 000	Diode KDS160	K005016000010
<b>RESISTORS GROUP</b>			
J821,824		Carbon chip 0 ohm 1/10W	C200000060200
J828,829		Carbon chip 0 ohm 1/10W	C200000060200
R817~825		Carbon chip 10 kohm 1/10W	C200010360200
R830,831		Carbon chip 10 kohm 1/10W	C200010360200
R834,835		Carbon chip 4.7 kohm 1/10W	C200047260200
R836		Carbon chip 10 kohm 1/10W	C200010360200
R837		Carbon chip 47 ohm 1/10W	C200047060200
R838		Carbon chip 10 kohm 1/10W	C200010360200
R839,842		Carbon chip 4.7 kohm 1/10W	C200047260200
R848		Carbon chip 100 ohm 1/10W	C200010160200
R850		Carbon chip 75 ohm 1/10W	C200075060200
R854		Carbon chip 2.2 kohm 1/10W	C200022260200
R854L,4R		Carbon chip 47 kohm 1/10W	C200047360200
R855		Carbon chip 100 kohm 1/10W	C200010460200
R856		Carbon chip 10 kohm 1/10W	C200010360200
R858,859		Carbon chip 0 ohm 1/10W	C200000060200
R859R		Carbon chip 4.7 kohm 1/10W	C200047260200
R860L,R		Carbon chip 4.7 kohm 1/10W	C200047260200
R861		Carbon chip 47 ohm 1/10W	C200047060200
R861L,R		Carbon chip 470 ohm 1/10W	C200047160200
R862L,R		Carbon chip 4.7 kohm 1/10W	C200047260200

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
<b>CAPACITORS GROUP</b>							
R863L,R		Carbon chip 470 ohm 1/10W	C200047160200	C803,805		Ceramic chip 22pF/50V	D010220167200
R864C,FL, FR,SL,SR, SW		Carbon chip 100 kohm 1/10W	C200010460200	C808		Ceramic chip 0.1μF/50V	D011104597200
R866		Carbon chip 10 kohm 1/10W	C200010360200	C809		Electrolytic 100μF/10V	D040101082060
R866C,FL, FR,SL,SR, SW		Carbon chip 4.7 kohm 1/10W	C200047260200	C810		Ceramic chip 0.1μF/50V	D011104597200
R867		Carbon chip 100 kohm 1/10W	C200010460200	C811		Electrolytic 47μF/10V	D040470082050
R867C,FL, FR,SL,SR, SW		Carbon chip 4.7 kohm 1/10W	C200047260200	C816		Ceramic chip 22pF/50V	D010220167200
R868C,FL, FR,SL,SR, SW		Carbon chip 4.7 kohm 1/10W	C200047260200	C817		Electrolytic 0.1μF/50V	D040R10087070
R869C,FL, FR,L,SL,SR, SW		Carbon chip 4.7 kohm 1/10W	C200047260200	C818		Ceramic chip 0.1μF/50V	D011104597200
R870C,FL, FR,SL,SR, SW		Carbon chip 1 kohm 1/10W	C200010260200	C821		Electrolytic 1000μF/6.3V	D040102081060
R871C,FL, FR,SL,SR, SW		Carbon chip 100 kohm 1/10W	C200010460200	C822,823		Ceramic chip 0.1μF/50V	D011104597200
R872C,FL, FR,SL,SR, SW		Carbon chip 2.2 kohm 1/10W	C200022260200	C824		Electrolytic 100μF/10V	D040101082060
R880,881		Carbon chip 47 ohm 1/10W	C200047060200	C825		Electrolytic 1μF/50V	D040010087050
R895		Carbon chip 100 kohm 1/10W	C200010460200	C826		Electrolytic 10μF/35V	D040100085050
R911		Carbon chip 10 kohm 1/10W	C200010360200	C827		Ceramic chip 0.1μF/50V	D011104597200
R913		Carbon chip 1 Mohm 1/10W	C200010560200	C829		Electrolytic 10μF/35V	D040100085050
R922		Carbon chip 4.7 kohm 1/10W	C200047260200	C830		Ceramic chip 0.1μF/50V	D011104597200
R923		Carbon chip 6.2 kohm 1/10W	C200062260200	C832,833		Ceramic chip 0.1μF/50V	D011104597200
R927		Carbon chip 75 ohm 1/10W	C200075060200	C836		Electrolytic 220μF/6.3V	D040221081050
R928		Carbon chip 5.1 kohm 1/10W	C200051260200	C837,838		Ceramic chip 0.1μF/50V	D011104597200
R929		Carbon chip 8.2 kohm 1/10W	C200082260200	C839		Ceramic chip 0.22μF/50V	D011224597200
R930		Carbon chip 3 kohm 1/10W	C200030260200	C840		Electrolytic 2.2μF/50V	D0402R2087250
R931		Carbon chip 6.2 kohm 1/10W	C200062260200	C841		Electrolytic 47μF/10V	D040470082050
R931L,R		Carbon chip 18 kohm 1/10W	C200018360200	C842		Ceramic chip 0.1μF/50V	D011104597200
R932		Carbon chip 4.7 kohm 1/10W	C200047260200	C843		Electrolytic 100μF/10V	D040101082060
R938		Carbon chip 470 kohm 1/10W	C200047460200	C844		Ceramic chip 0.1μF/50V	D011104597200
R940		Carbon chip 10 kohm 1/10W	C200010360200	C854,855		Electrolytic 100μF/25V	D040101084060
R941		Carbon chip 1 kohm 1/10W	C200010260200	C856-863		Ceramic chip 0.1μF/50V	D011104597200
R941		Carbon chip 470 ohm 1/10W	C200047160200	C864L,R		Electrolytic 10μF/35V	D040100085050
R942,943		Carbon chip 0 ohm 1/10W	C200000060200	C865L,R		Ceramic chip 100pF/50V	D010101167200
R945-948		Carbon chip 0 ohm 1/10W	C200000060200	C869L,R		Ceramic chip 100pF/50V	D010101167200
R949		Carbon chip 47 ohm 1/10W	C200047060200	C871L,R		Ceramic chip 1000pF/50V	D011102777200
R950,951		Carbon chip 0 ohm 1/10W	C200000060200	C873C,FL, FR,SL,SR, SW		Ceramic chip 680pF/50V	D010681167200
R952-954		Carbon chip 100 ohm 1/10W	C200010160200	C874C,FL, FR,SL,SR, SW		Ceramic chip 680pF/50V	D010681167200
				C875C,FL, FR,SL,SR, SW		Electrolytic 10μF/35V	D040100085050
				C876C,FL, FR,SL,SR, SW		Ceramic chip 3300pF/50V	D011332777200
				C878		Electrolytic 100μF/10V	D040101082060
				C880C,FL, FR,SL,SR, SW		Electrolytic 10μF/35V	D040100085050
				C894,896		Ceramic chip 0.1μF/50V	D011104597200
				C908,909		Ceramic chip 27pF/50V	D010270167200
				C916		Ceramic chip 0.1μF/50V	D011104597200

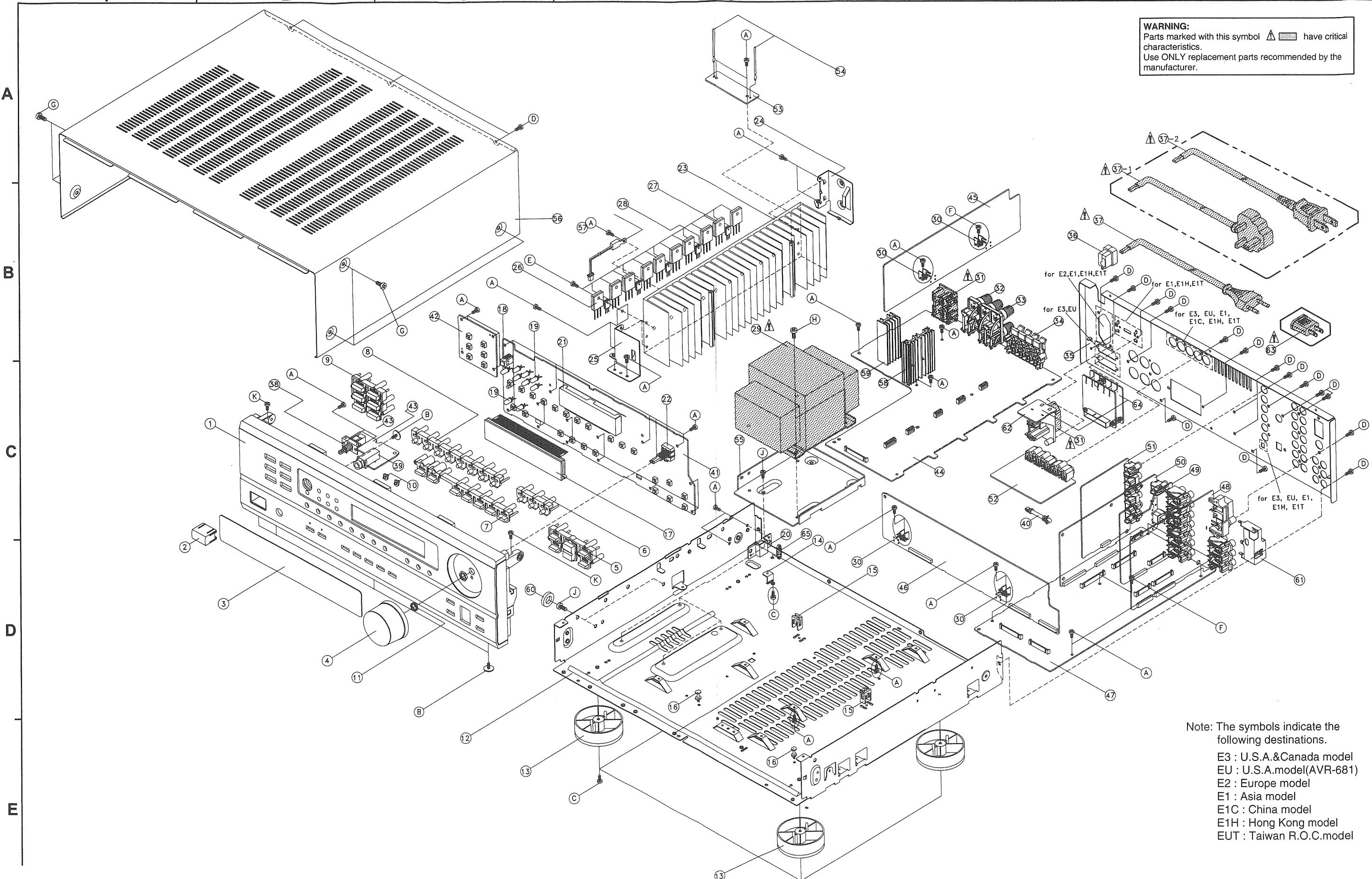
## VOLTAGE SEL P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
C917		Electrolytic 10μF/35V	D040100085050
C918		Ceramic chip 0.1μF/50V	D011104597200
C919		Ceramic chip 0.01μF/50V	D011103777200
C920		Ceramic chip 0.1μF/50V	D011104597200
C921		Ceramic chip 0.01μF/50V	D011103777200
C923,925		Ceramic chip 0.1μF/50V	D011104597200
C926		Electrolytic 10μF/35V	D040100085050
C931,935		Ceramic chip 0.01μF/50V	D011103777200
C936		Ceramic chip 0.1μF/50V	D011104597200
C937		Electrolytic 10μF/35V	D040100085050
C938		Electrolytic 1μF/50V	D040010087050
C939,940		Ceramic chip 0.01μF/50V	D011103777200
C943		Electrolytic 0.1μF/50V	D040R10087070
C944		Ceramic chip 0.01μF/50V	D011103777200
C945		Ceramic chip 1000pF/50V	D011102777200
C946,947		Ceramic chip 0.1μF/50V	D011104597200
C948		Electrolytic 10μF/35V	D040100085050
C949		Electrolytic 2.2μF/50V	D0402R2087250
C950		Ceramic chip 0.1μF/50V	D011104597200
C951		Electrolytic 100μF/10V	D040101082060
C952,953		Ceramic chip 0.1μF/50V	D011104597200
C956		Ceramic chip 1000pF/50V	D011102777200

Ref. No.	Part No.	Part Name	Remarks	Q'ty
<b>OTHER PARTS GROUP</b>				
CN105	963 0059 105	2P connector cord	L000121020040 for E1,E1H,E1T	1
CN903	963 0058 805	2P connector cord	L000101020070 for E1,E1H,E1T	1
CP901	963 0061 203	5P connector base	L104353280500 for E1,E1H,E1T	1
CP902	963 0059 309	3P connector base	L000151030030 for E1,E1H,E1T	1
△F101	960 0142 602	Fuse 2.5A	G650252251160 for E1,E1H,E1T	1
△F101A,B	960 0005 804	Fuse clip	G645000050010 for E1,E1H,E1T	2
△F102	963 0044 709	Fuse 3.15A	G650312251160 for E1,E1H,E1T	1
△F102A,B	960 0005 804	Fuse clip	G645000050010 for E1,E1H,E1T	2
△F901	963 0057 107	Fuse 6.3A	G650632251160 for E1,E1H,E1T	1
△F901A,B	960 0005 804	Fuse clip	G645000050010 for E1,E1H,E1T	2
△JK911	960 0143 203	AC outlet(2P)	G435040110000 for E1,E1H,E1T	1
JK912	963 0056 904	SLIDE SW	G060268320010 for E1,E1H,E1T	1
		Supporter	4070210192000 for E1,E1H,E1T	2
	963 0051 103	Spacer	4300210062000 for E1,E1H,E1T	1

## EXPLODED VIEW

1 2 3 4 5 6 7 8



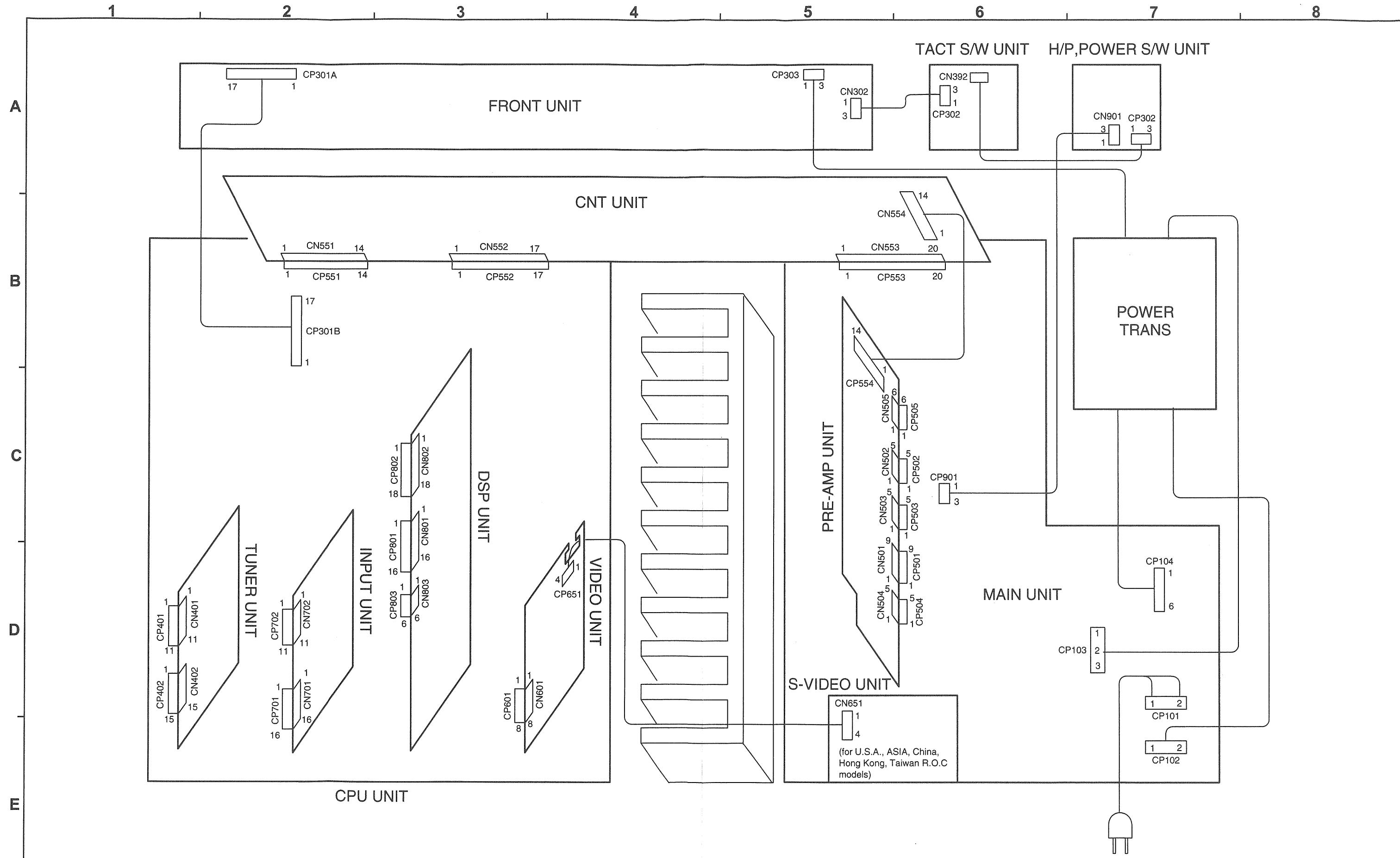
Note: The symbols in the column "Remarks" indicate the following destinations.  
 E3: U.S.A. model, Csnada model E1C: China model  
 EU: U.S.A. model (AVR-681) E1H: Hong Kong model  
 E2: Europe model E1T: Taiwan R.O.C. model  
 E1: Asia model

## PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
	963 0042 002	Main P.W.B assy	7025HK9908010 for E3,EU	1	1	963 0053 143	Front panel	3067210261020 for E1C(Black model)	1
	963 0042 028		7025HK9908040 for E2	1	2	960 0185 009	Power button	5090210201000 for Black model	1
	963 0042 031		7025HK9908110 for E1	1	2	960 0191 705	Power button	5097210201120 for Gold mode	1
	963 0042 044		7025HK9908100 for E1T	1	3	960 0191 501	Window	5077210262000 for Black model	1
	963 0042 057		7025HK9908080 for E1H	1	4	963 0054 906	Main volume knob	5087210191010 for Gold mode	1
	963 0042 060		7025HK9908060 for E1C	1	4	960 0191 608	Main volume knob	5087210191100 for Black model	1
44	—	Main P.W.B assy		1	5	963 0053 703	Button (5key)	5097210471000 for Gold mode	1
49	—	Input P.W.B assy		1	5	960 0191 802	Button (5key)	5097210471100 for Black model	1
53	—	Video CNT P.W.B assy	for E3,EU,E1, E1C,E1H,E1T	1	6	963 0053 606	Button (3key)	5090210511000 for Gold mode	1
	963 0042 109	Processor P.W.B assy	7025HK9908011 for E3,EU	1	6	960 0192 209	Button (3key)	5097210511100 for Black model	1
	963 0042 112		7025HK9908041 for E2	1	7	963 0053 402	Button (7key)	5097210491000 for Black model	1
	963 0042 125		7025HK9908111 for E1,E1T,E1H,E1C	1	7	960 0192 005	Button (7key)	5097210491100 for Gold mode	1
41	—	Front P.W.B assy		1	8	963 0053 509	Button (8key)	5090210501000 for Black model	1
47	—	CPU P.W.B assy		1	8	960 0192 102	Button (8key)	5097210501100 for Gold mode	1
62	—	Outlet P.W.B assy		1	9	963 0053 305	Button (6key)	5090210481000 for Black model	1
	963 0042 206	CNT P.W.B assy	7025HK9908012 for E3,EU	1	9	960 0191 909	Button (6key)	5097210481100 for Gold mode	1
	963 0042 219		7025HK9908042 for E2	1	10	960 0191 404	Lens	3710210043000 for E3,EU,E2	2
	963 0042 222		7025HK9908112 for E1,E1T,E1H	1	11	963 0051 006	Knob spring	3720210116000 for E1C	1
	963 0042 235		7025HK9908062 for E1C	1	12	960 0198 203	Chassis	3208210146300 for E1,E1C,E1H,E1T	1
42	—	Switch P.W.B assy		1	12	960 0198 216	Chassis	3208210146301 for E1,E1C,E1H,E1T	1
43	—	Head phone P.W.B assy		1	13	960 0183 904	Foot assy	4008020061010 for E1,E1C,E1H,E1T	4
46	—	Cnt P.W.B assy		1	14	960 0184 107	Supporter bracket	4010210206000 for E3,EU,E1, E1C,E1H,E1T	1
48	—	Tuner P.W.B assy		1	15	960 0003 301	PCB supporter	4070001601010 for E3,EU,E2	2
51	—	Video P.W.B assy		1	16	963 0051 103	Card spacer	4300210062000 for E2	2
52	—	S-Video P.W.B assy	for E3,EU,E1, E1C,E1H,E1T	1	17	960 0180 509	FLT (16-ST-42GNK)	K530164200010 for E1	1
	963 0042 303	Amp P.W.B assy	7025HK9908013 for E1	1	18	960 0181 100	IC NJL64H380A	E940643800000 for E1,E1T,E1H	1
	963 0042 400	Amp P.W.B assy	7025HK9908014 for EU	1	19	960 0197 204	LED PI5-RD/HL50RDRF4T	K500052015010 for E2,E1C,E1H,E1T	9
	963 0044 408	DSP P.W.B assy	7025HK9908115 for E1,E1T,E1H	1	20	963 0044 505	Side bracket	4010210236000 for E2,E1C,E1H,E1T	1
64	—	Voltage sel P.W.B assy		1	21	960 0184 408	FLT holder	4320200026000 for E1,E1T,E1H,E1T	1
1	963 0053 101	Front panel	3067210261000 for E3	1	22	960 0181 207	Rotary encoder	G121162420400 for E2	1
1	963 0053 130	Front panel	3067210261030 for EU	1	23	—	Heat sink	2120210128200 for E1,E1C	1
1	963 0053 114	Front panel	3067210261010 for E2	1	24	960 0184 204	Heat sink bracket B	4010210386000 (Gold model),E1H,E1T	1
1	963 0053 127	Front panel	3067210261120 for E1,E1C	1	25	960 0184 301	Heat sink bracket F	4010210396000 for E1H,E1T	1

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
	26	960 0000 107	Transistor 2SB1559Y 760 C18C203	5	55	960 0192 306	Trans bracket	4010210460000	1
	27	960 0090 000	Transistor 2SD2389Y	5	56	963 0053 004	Top cover	3000210096000	1
	28	960 0114 300	Transistor 2SC4137	5	56	960 0191 006	Top cover	3000210096100	1
	29	963 0053 907	Power trans	1	57	960 0187 900	Posistor	F320161001020	1
	29	963 0053 910	Power trans	1	58	—	Heat sink	2120043538050	1
	29	963 0053 923	Power trans	1	59	—	Heat sink	2120044308010	1
	29	963 0053 936	Power trans	1	60	963 0051 200	Cushion	4050210165000	2
	30	960 0184 000	Screw bracket	4	61	963 0054 003	Shield tuner pack	3070210056000	1
	31	960 0187 803	AC outlet(2P)	1	63	963 0061 300	AC plug adapter	L1092830310A for E1T	1
	31	960 0143 203	AC outlet	1	65	963 0044 602	Supporter	4070210192000 for E2,E1C,E1H,E1T	1
	32	960 0194 809	2P speaker terminal	1	65	963 0044 602	Supporter	4070210192000 for E1,E1H,E1T	2
	33	960 0188 608	4P speaker terminal	1	★	960 0093 104	Push rivet	2410040353010	6
	34	960 0194 304	8P speaker terminal	1	★	963 0061 407	Fuse caution label	for E2,E1C,E1H,E1T	1
	35	963 0053 208	Back panel	1	★	963 0061 407	Fuse caution label	for E3,EU	1
	35	963 0053 240	Back panel	1	★	963 0061 407	Fuse caution label	for E2,E1C,E1H,E1T	1
	35	963 0053 211	Back panel	1	★	963 0061 407	Fuse caution label	for E2	1
	35	963 0053 224	Back panel	1	★	963 0061 407	Fuse caution label	for E1,E1H,E1T	1
	35	963 0053 237	Back panel	1	★	963 0061 407	Fuse caution label	for E1C	1
	36	960 0192 403	Cord bush	1	★	963 0061 407	Fuse caution label	for Gold mode	1
	37	960 0165 304	AC cord assy	1	C	963 0048200	Screw (2S 3x8 ZNY/BH)	B020030081B10	53
	37	963 0060 408	AC cord assy	1	D	960 0108701	Screw (2S 3x8 ZNY/BH)	B020030081B10	55
	37-1	960 0143 009	AC cord assy	1	D	960 0108701	Screw (2S 3x10 DOT BK)	B020030103B11	31
	37-2	960 0166 400	AC cord assy	1	D	960 0108701	Screw (2S 3x10 DOT BK)	B020030103B11	28
	37-2	963 0060 301	AC cord assy	1	D	960 0108701	Screw (2S 3x10 DOT BK)	B020030103B11	33
	38	960 0176 209	Push switch	1	D	960 0108701	Screw (2S 3x10 DOT BK)	B020030103B11	30
	38	963 0056 603	Push switch	1	E	963 9004 009	Screw (2S3x14 WASHER ZNY/HH)	B018230141H10	15
	38	963 0056 603	Push switch	1	F	963 0018104	Screw (2S 3x17 ZNY/BH)	B02003017B10	2
	39	960 0187 502	Head phone jack (D6.5)	1	G	963 0048307	Screw (2S 4x8 DOT BK)	1500040083B10	6
	40	—	PCB holder	1	G				

## WIRING DIAGRAM



## SCHEMATIC DIAGRAMS (1/8)

1

2

3

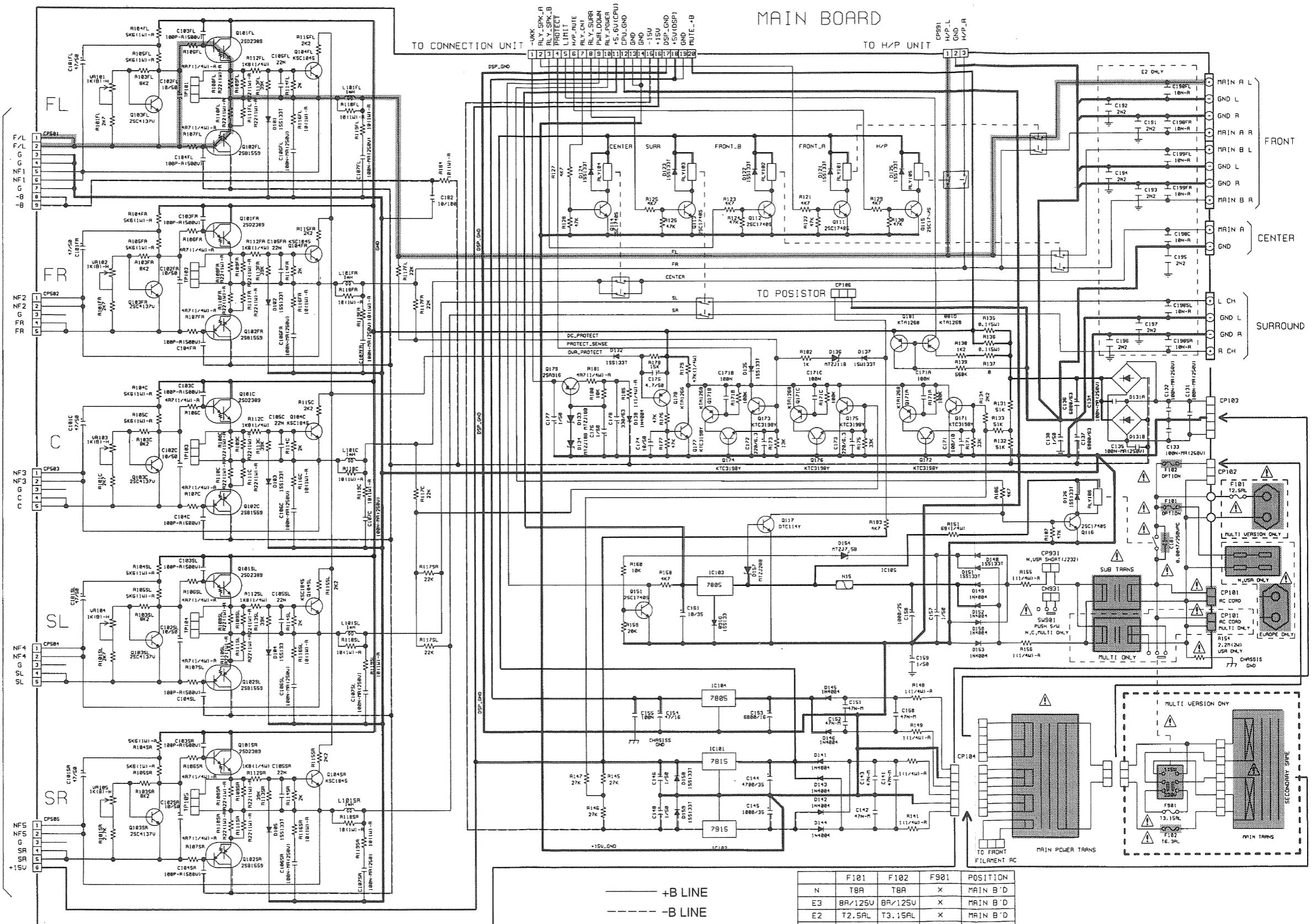
1

四

6

7

8



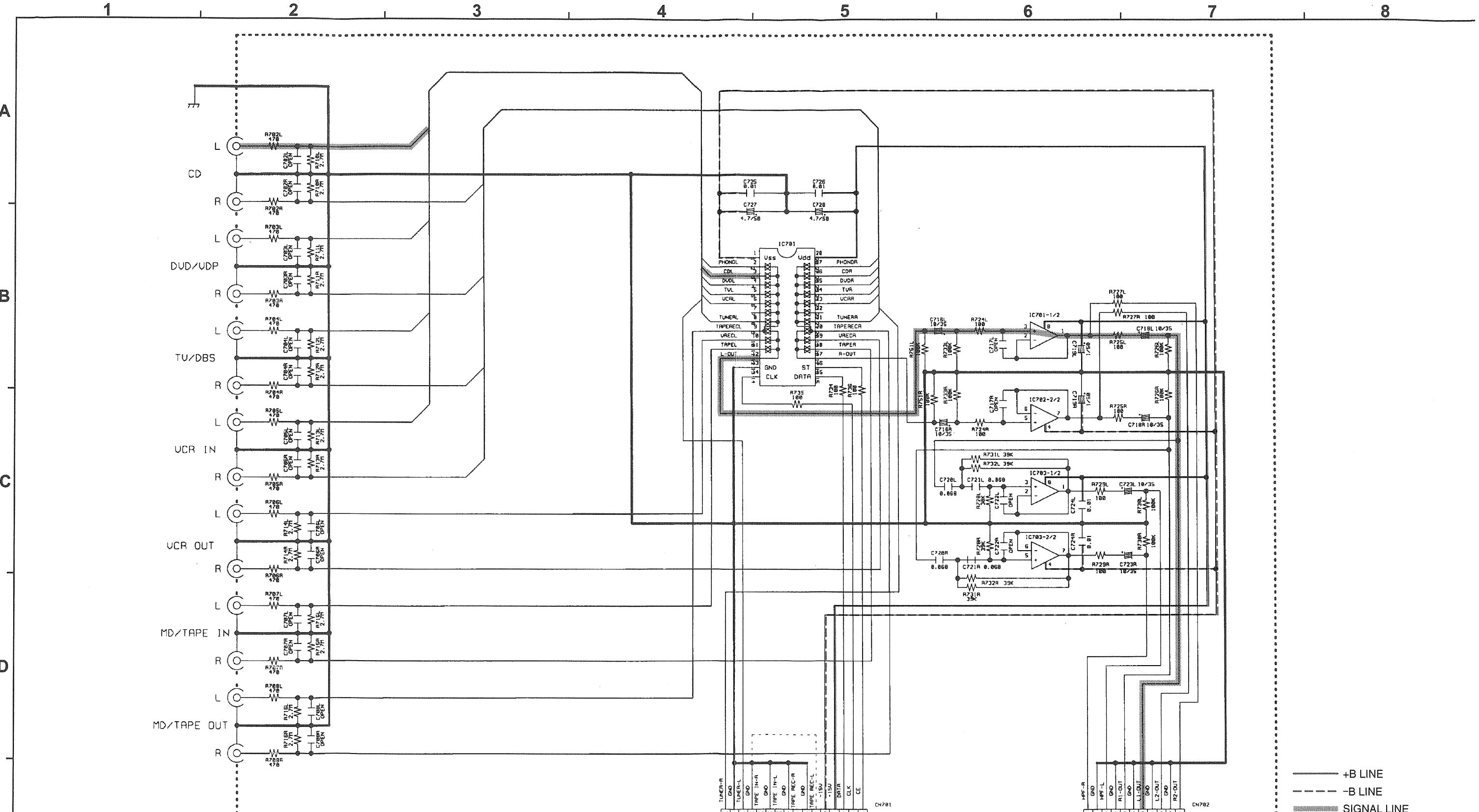
## SCHEMATIC DIAGRAMS (1/8)

### MAIN UNIT

### VOLTAGE SEL UNIT

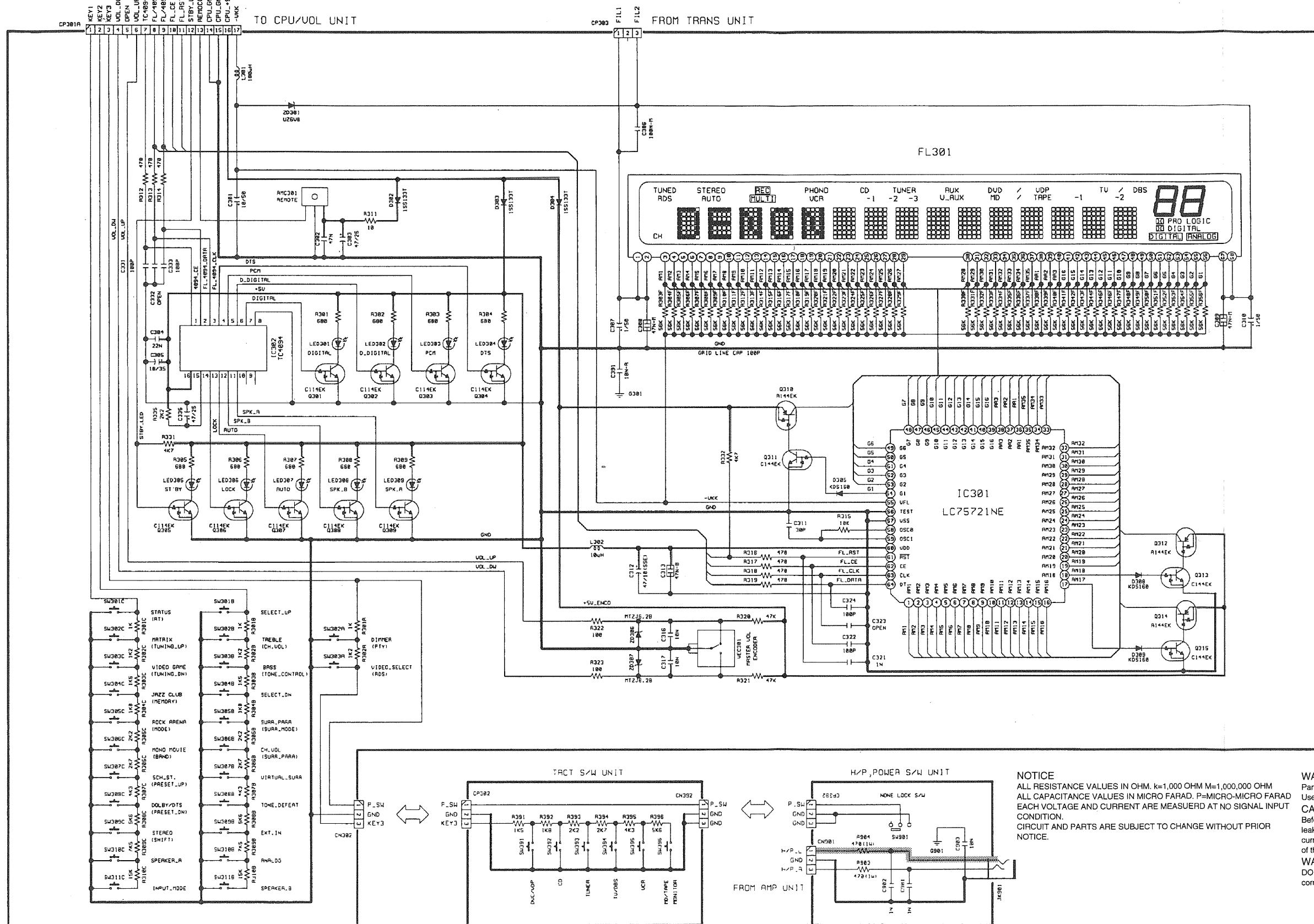
	F101	F102	F901	POSITION
N	T8A	T8A	X	MAIN B'D
E3	8A:125U	8A:125U	X	MAIN B'D
E2	T2.5AL	T3.15AL	X	MAIN B'D
C	X	T3.15AL	X	MAIN B'D
H,T,E1	T2.5AL	T6.3AL	T3.15AL	U:SEL B'D

## SCHEMATIC DIAGRAMS (2/8)



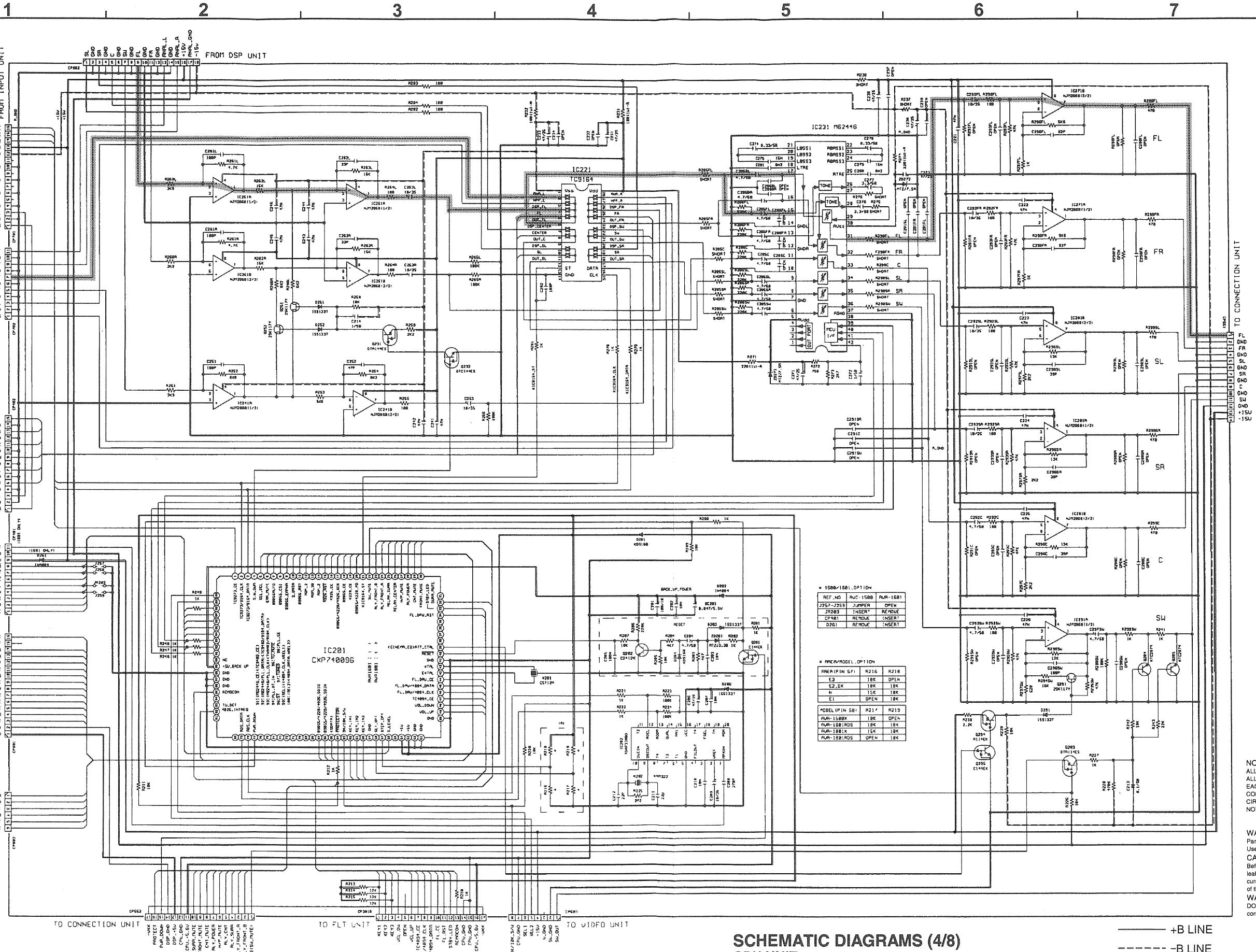
## SCHEMATIC DIAGRAMS (3/8)

1 2 3 4 5 6 7 8



SCHEMATIC DIAGRAMS (3/8)  
 FRONT UNIT / TACT S/W UNIT  
 H/P, POWER S/W UNIT

## SCHEMATIC DIAGRAMS (4/8)



## SCHEMATIC DIAGRAMS (5/8)

1

2

5

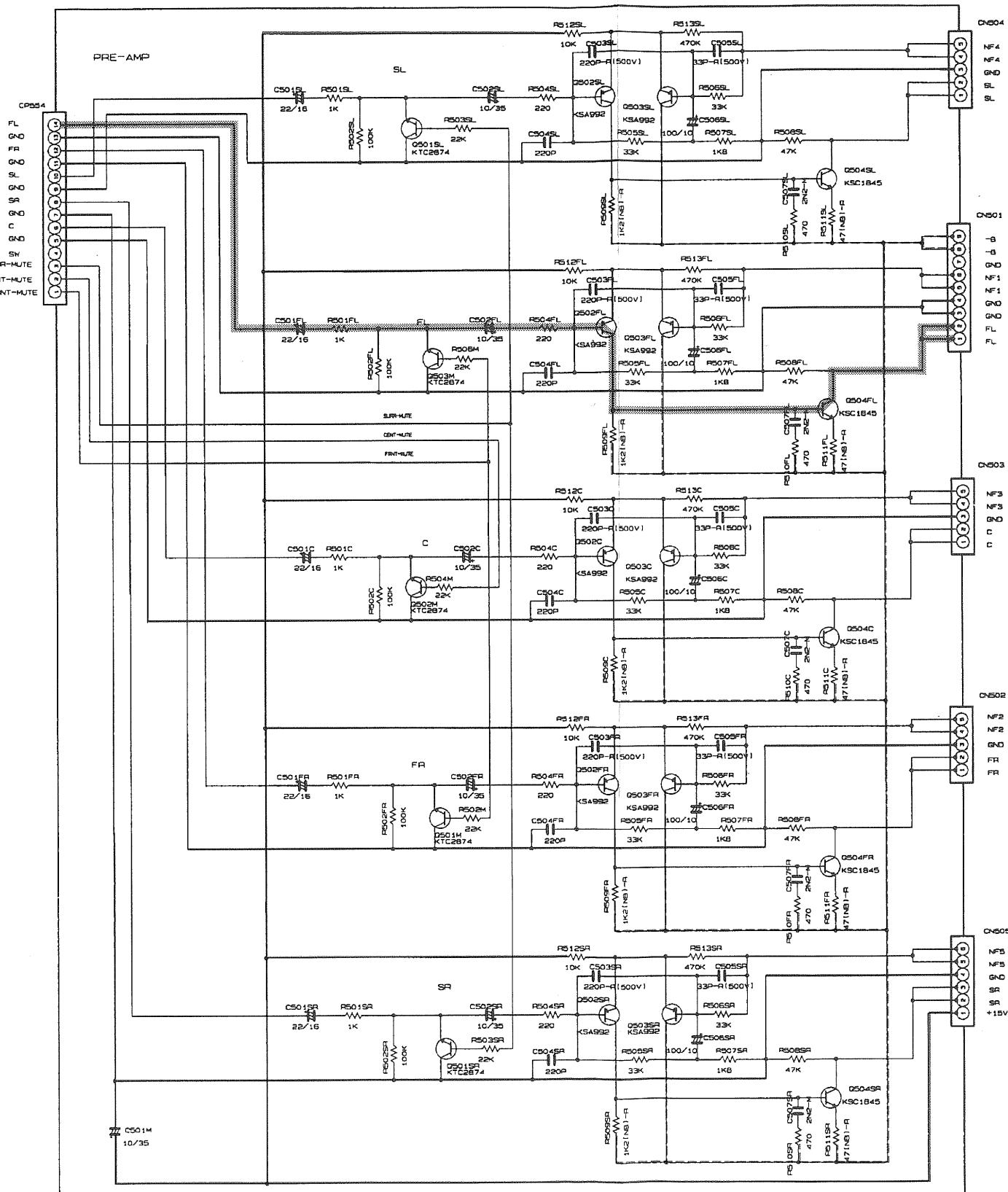
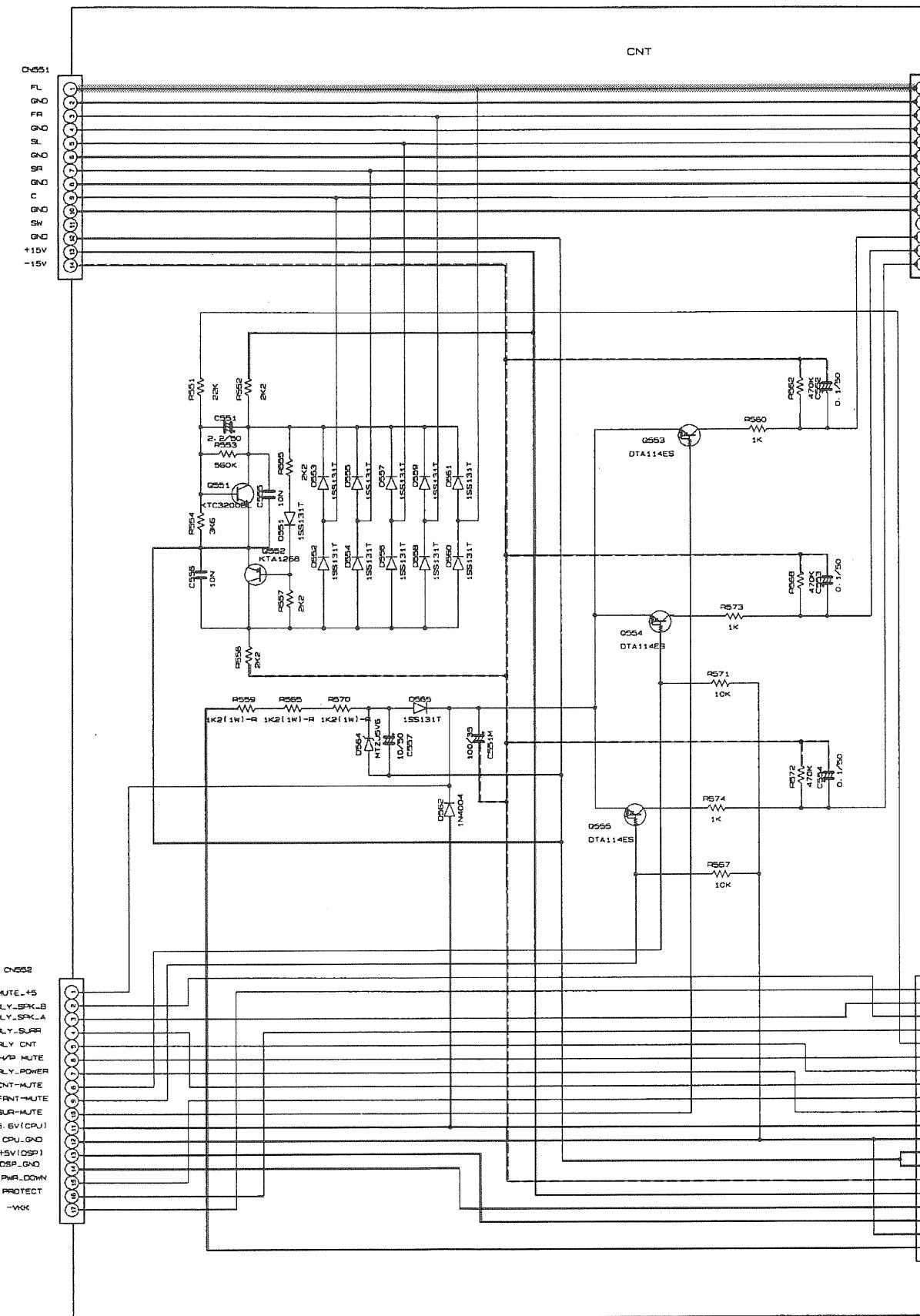
6

100-1000

— 10 —

7

8



**NOTICE**  
ALL RESISTANCE VALUES IN OHM. K=1,000 OHM M=1,000,000 OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.  
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
NOTICE.

**WARNING:**  
RAD Parts marked with this symbol   have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

**PUT CAUTION:**  
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps, or if the resistance from chassis to either side of the power card is less than 460 kohms, the unit is defective.

**WARNING:**  
DO NOT return the unit to the customer until the problem is located and corrected.

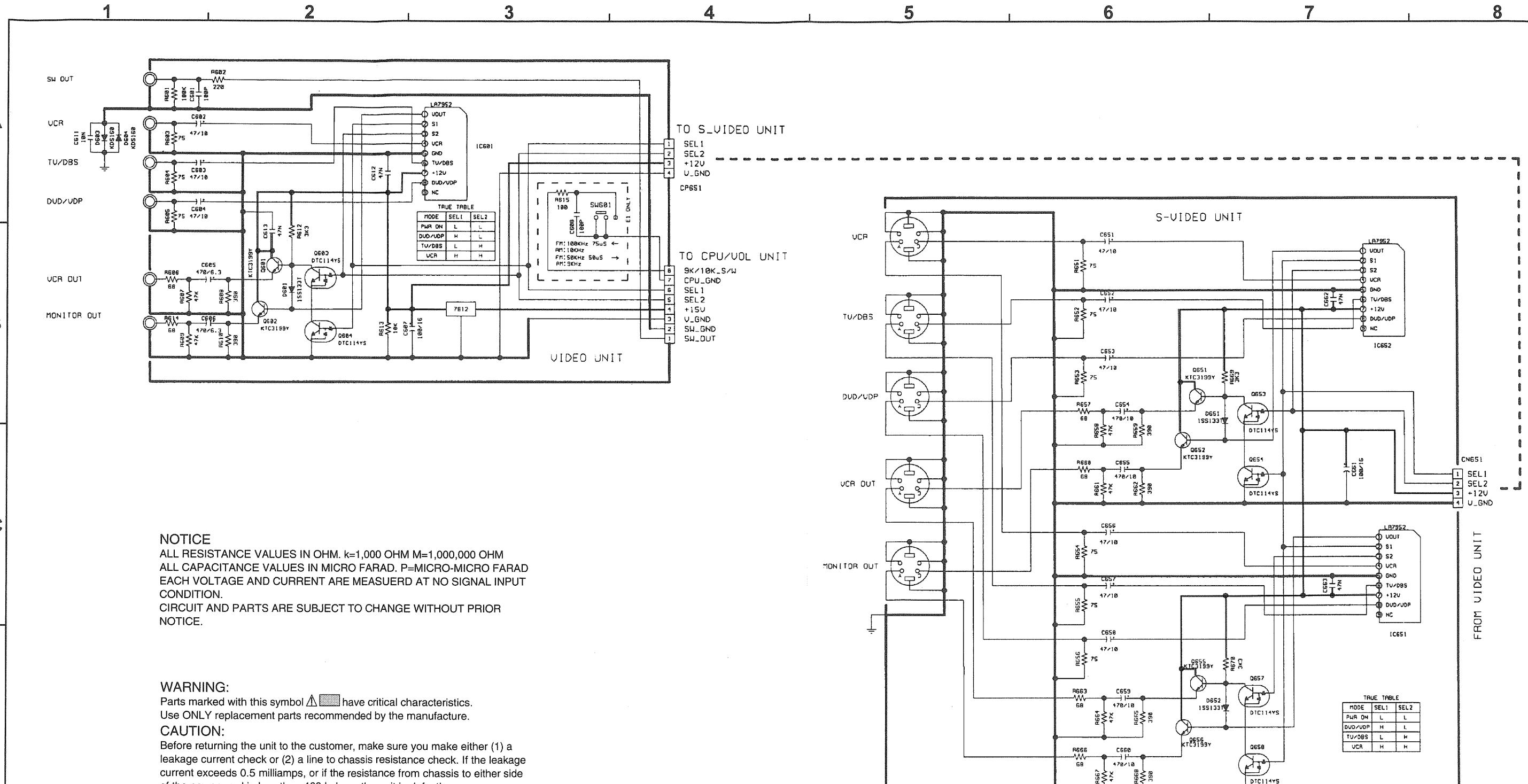
— +B LINE

----- -B LINE

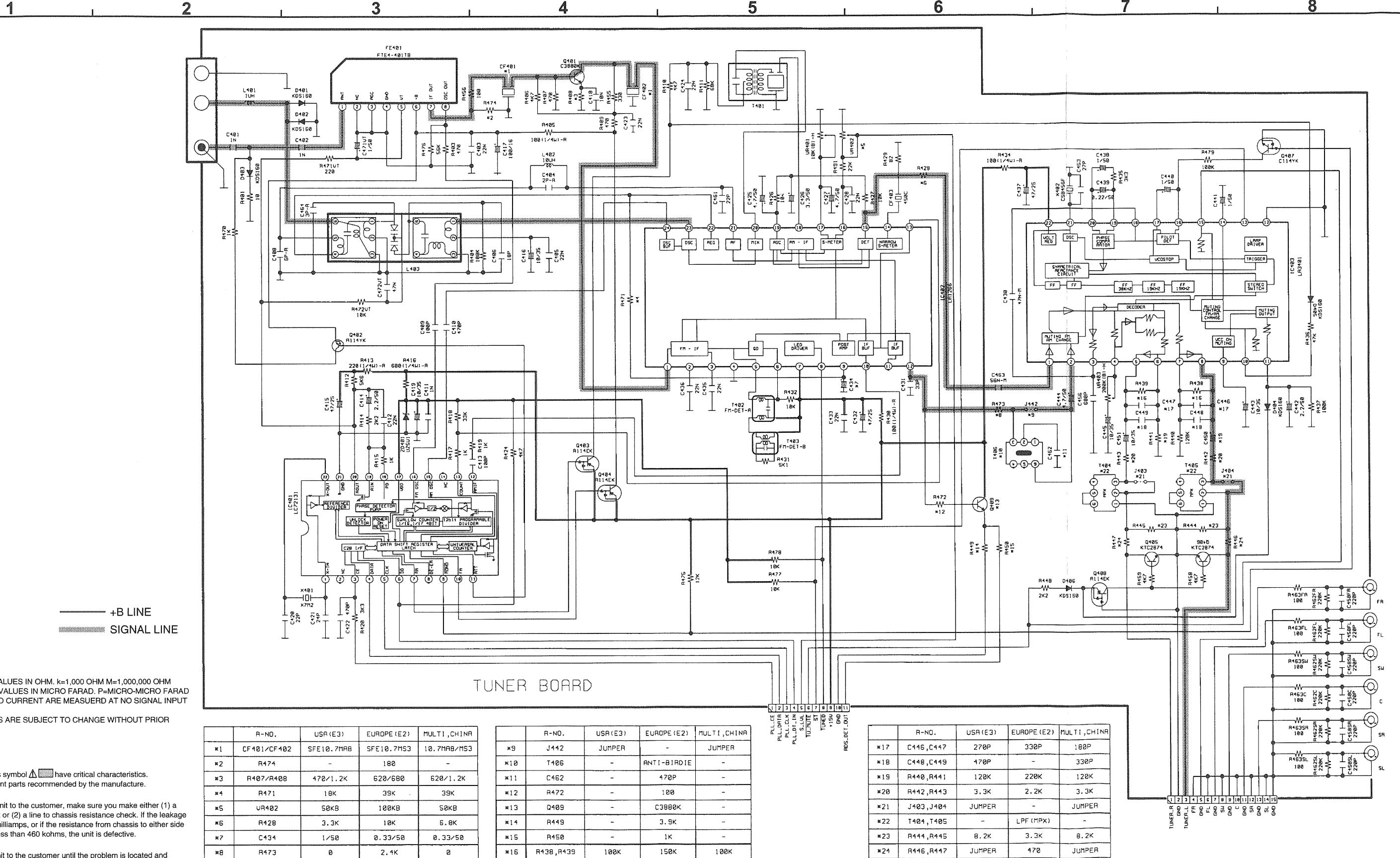
## 1) a package SIGNAL LINE

## SCHEMATIC DIAGRAMS (5/8) CNT UNIT / PRE-AMP UNIT

## SCHEMATIC DIAGRAMS (6/8)

SCHEMATIC DIAGRAMS (6/8)  
VIDEO UNIT / S-VIDEO UNIT

## SCHEMATIC DIAGRAMS (7/8)

SCHEMATIC DIAGRAMS (7/8)  
TUNER UNIT

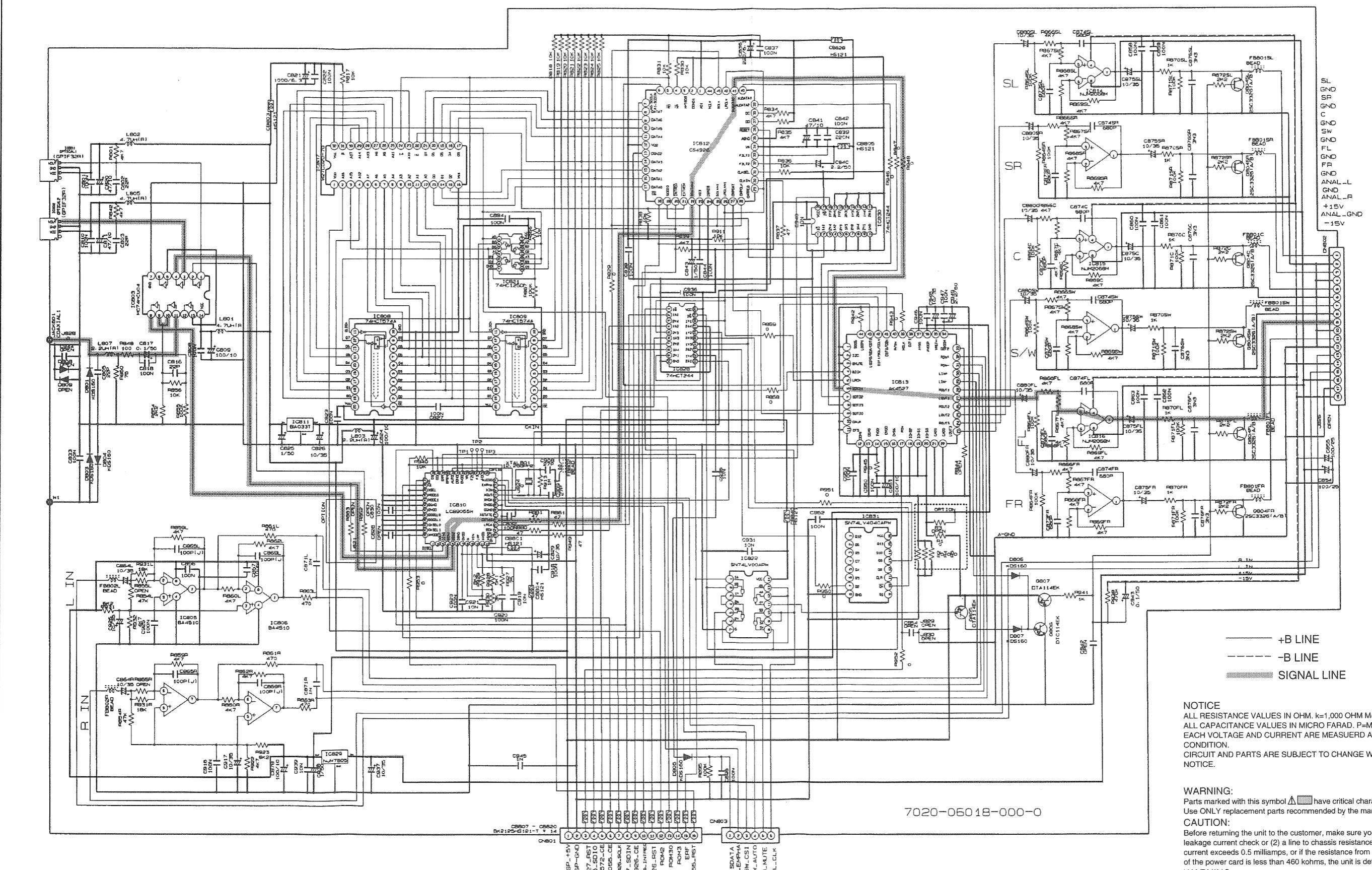
## SCHEMATIC DIAGRAMS (8/8)

1

2

6

8



## SCHEMATIC DIAGRAMS (8/8) DSP UNIT

NOTICE  
ALL RESISTANCE VALUES IN OHM. K=1,000 OHM M=1,000,000 OHM  
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD  
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT  
CONDITION.  
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR  
NOTICE.

**WARNING:**  
Parts marked with this symbol  have critical characteristics.  
Use ONLY replacement parts recommended by the manufacturer.

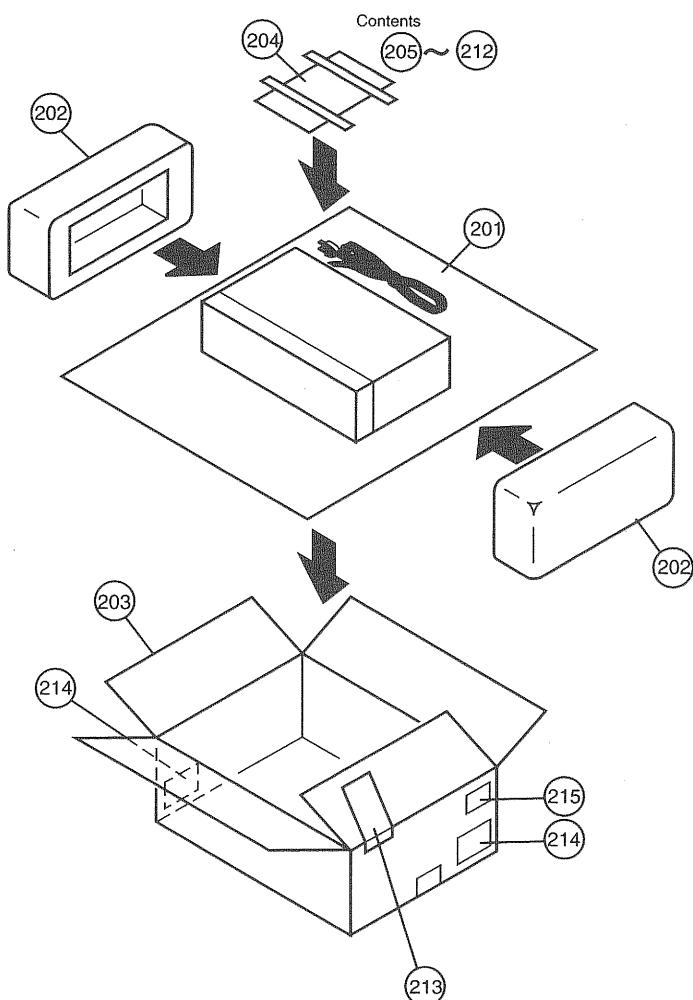
**CAUTION:**  
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 millamps, or if the resistance from chassis to either side of the power card is less than 460 kilohms, the unit is defective.

or the power card is less than 400 kilohms, the unit is defective.

**WARNING:**

DO NOT return the unit to the customer until the problem is located and corrected.

## PACKING VIEW



## PARTS LIST OF PACKING & ACCESSORIES

Note: The symbols in the column "Remarks" indicate the following destinations.  
 E3: U.S.A. model, Canada model      E1C: China model  
 EU: U.S.A. model (AVR-681)      E1H: Hong Kong model  
 E2: Europe model      E1T: Taiwan R.O.C. model  
 E1: Asia model

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
201	960 0185 601	Set poly bag	6330210019000	1	212	963 0061 300	AC plug adapter	L10928300310A	1
202	960 0193 101	Cushion	6230210154000	1	213	515 0817 009	DEL Warranty home	for E1T	1
203	963 0054 100	Carton case	6007210150000	1	214	—	Control label	for E3,EU	1
			for E3,E2		215	—	UPC label	5500014920010	2
203	963 0054 113	Carton case	6007210150040	1	215	—	UPC label	5507002330010	1
			for EU		215	—	POS label	for E3	
203	963 0054 553	Carton case	6007210150100	1	215	—	UPC label	5507002330040	1
			for E1H		215	—	POS label	for EU	
203	963 0054 540	Carton case	6007210150030	1	215	—	POS label	5507002330030	1
			for E1,E1C,E1T		★	—	Label (RDS,RADIO TEXT)	for E2	2
204	963 0045 106	Poly bag	6330000240000	1	★	—	Label (CCIB)	5507051670010	2
205	963 0056 001	Instruction manual	for E3,EU	1	★	—	Carton label (A)	for E2	
205	963 0056 014	Instruction manual	for E2	1	★	—	Carton label (B)	5500020160030	2
205	963 0056 043	Instruction manual	for E1,E1C,E1H,E1T	1	★	—	Color label (Gold)	for E1C	
206	963 0056 027	Instruction manual	for E1C	1	★	513 3341 000	Pad	for E1,E1C,E1H,E1T	1
207	515 0867 004	SS. list		1	★	513 3342 009	Pad	for E1,E1C,E1H,E1T	1
208	963 0052 306	AM loop antenna	E605010090000	1	★	513 9111 001	Pad	for E1,E1C(Gold model), E1H,E1T	2
209	963 0052 209	FM antenna	E605000030010	1	★	963 0055 918	Pad	6240210144000	2
210	960 0193 402	Remocon RC-875	8300875000010	1				for E1H	
211	—	Battery (R6P/AA)	G670001R50010	2					

**DENON**

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